



US Army Corps
of Engineers
Alaska District

Public Notice of Application for Permit

Regulatory Branch (1145b)
Post Office Box 6898
Elmendorf AFB, Alaska 99506-6898

PUBLIC NOTICE DATE: 7 February 2005

EXPIRATION DATE: 9 March 2005

REFERENCE NUMBER: POA-2003-1081-4

WATERWAY NUMBER: POA-1989-402-P,
Campbell Creek

Interested parties are hereby notified that an application has been received for a Department of the Army permit for certain work in waters of the United States as described below and shown on the attached plan.

APPLICANT: Alaska Department of Transportation and Public Facilities (DOT/PF), Central Region, P.O. Box 196900, Anchorage, Alaska, 99519-6900, and Anchorage Water and Wastewater Utility (AWWU), 3000 Arctic Boulevard, Anchorage, Alaska, 99503-3898, respectively.

LOCATION: The extension of Abbott Loop Road would occur between Abbott Road and 48th Avenue. The new 48-inch water main would be placed primarily under the paved pathway on the west side of the road. Approximately 800-feet south of 48th Avenue, the water main would switch to the east side of the road. The water line would continue north on the east side from 48th Avenue to Tudor Road. The project would take place within sections 3, 4, 9, and 10, Township 12 N., Range 3 W. and sections 33, 34, and 35, Township 13 N., Range 3 W., Seward Meridian; Latitude 61.17, Longitude -149.81.

WORK: The project would be approximately 3 miles long and would include reconstruction of the two-lane road between Abbott Road and 64th Avenue, new construction of a four-lane rural roadway between 64th and 48th Avenue, installation of a 48-inch water main, and construction of multi-use pathways and other associated features. The project would require removal of approximately 250,000 cubic yards of unsuitable material and the placement of approximately 86,228 cubic yards (CY) of fill in 7.5 acres of wetland. Approximately 6,098 CY of fill would be placed in 1.3 acres of wetlands temporarily during construction. An additional 1.8 acres of wetland would be cleared permanently for dogsled trails and for visual clearance to minimize potential moose-vehicle collisions. An additional 1.7 acres of wetland would be cleared temporarily for construction purposes; vegetation is expected to re-establish after the site is vacated. Two bridges would be constructed; a 360-foot long bridge would span the North Fork of Campbell Creek and a 568-foot long bridge would span the South Fork of Campbell Creek and Dowling Tributary. Existing culverts for the North Fork of Little Campbell Creek, Lore Tributary, and Kasuun Tributary that cross the existing Abbott Loop Road would be replaced and upgraded.

PURPOSE: The purpose for extending Abbott Loop Road is to upgrade the existing roadway to meet current standards and to connect Abbott Road to Tudor Road. The new roadway would facilitate north-south transportation on the east side of Anchorage and help alleviate growing traffic congestion on existing roads.

The purpose of installing the 48-inch water main between Tudor Road and Abbott Road is to complete Phase IV of the Loop Water Transmission Main, the final phase of an eight-phased loop system to provide water in adequate quantities and with sufficient pressure to meet the needs within the greater Anchorage Bowl.

ADDITIONAL INFORMATION: In 2002, Anchorage voters approved a \$123 million bond for constructing critical statewide projects; among the projects approved was the extension of Abbott Loop Road to 48th Avenue. The project, also known as the Bragaw Street Extension, has been contentious but has consistently been supported in transportation studies and plans. The AWWU Phase IV water main was reviewed previously as a stand-alone project; however, controversy over the route and construction techniques stymied construction. The Abbott Loop Road project and the Phase IV water main have been combined in this review and, if authorized, the two projects would be constructed simultaneously to minimize the overall construction and facility footprints. The AWWU water line will be hung from the bridges that cross the North and South Forks of Campbell Creek and the Dowling Tributary, thereby removing the primary concern associated with the previous AWWU Phase IV proposal. DOT/PF and AWWU entered into an agreement on February 4, 2004, to specify the roles and responsibilities of the two parties. Following construction, AWWU would maintain the Phase IV pipeline through its authorization (POA-1989-402-P) and DOT/PF would maintain the Abbott Loop Extension through its authorization (POA-2003-1081-4). Work is anticipated to begin in the fall of 2005; the majority of work would take place in 2006.

Existing dog sled trails and the recently constructed Campbell Creek multi-use trail will have grade-separated crossings. Fencing and lighting have been designed to minimize moose-vehicle collisions.

No temporary fill pads would be needed for construction south of 64th Avenue. The contractor would likely need approximately six feet of working space on the east side of two of the retaining walls; however, a temporary fill pad would not be needed. These retaining walls are located at Retaining Wall III (sta 50+55 to sta 54+17) and Retaining Wall V (sta 59+50 to sta 63+65).

Permit drawings 33-34 depict the limits of the temporary fill for the area north of Dowling Road extended. Construction of the piers that will support the bridges will require temporary construction pads for the pile-driving equipment. The cranes will also work from these pads to lift the concrete girders from both ends. Piers will be pile-driven in place. North bridge piers would involve 42 total piles (twenty 60-foot piles and twenty-two 40-foot piles), and the south bridge would involve 62 total piles (forty 60-foot piles and twenty-two 40-foot piles). Temporary roads and fills outside of the permanent roadway footprint would be needed in order to construct the retaining walls and bridge piers, as shown on the permit application drawings. Based on the size of the cranes and pile-driving equipment that will likely be used by the Contractor, the following temporary fill areas will be required:

North Bridge:

- 20-foot wide gravel pad on the "outboard" side of the retaining wall to install the panels
- 50-foot wide gravel pad for the crane to work off (to lift, set, and place the bridge girders)
- 25-foot wide gravel pad running along each of the pier locations to set equipment for pile driving

- Temporary bridge would be designed and constructed by the Contractor

South Bridge:

- 10-foot wide gravel pad on the "outboard" side of the wingwall that's in the design to hold back the slopes where they are closest to the Dowling tributary
- 50-foot wide gravel pad for the crane to work off (to lift, set, and place the bridge girders)
- 25-foot wide gravel pad running along each of the pier locations to set equipment for pile driving

There are fewer temporary fills necessary around the south bridge because this location is not as confined by park boundaries, and there are less retaining walls in the design.

Temporary wetland fills have been minimized to the extent practicable, based on the size of equipment that is necessary to construct the bridge structures. The total acreage of these temporary fills is approximately 1.6 acres with approximately 1.3 acres of temporary fill in wetlands. The temporary working pads will likely be installed in the fall or winter of 2005/2006, and will be removed in the spring of 2007.

Streams along the northern project area would be crossed using temporary bridges, which would be designed to span the entire waterway. Following construction, the temporary bridges and fills would be removed, and the area restored to natural conditions, to the extent practicable.

MITIGATION: As a result of early project planning and pre-application coordination, the applicant has incorporated into the proposed project the following mitigation efforts to reduce impacts to the aquatic environment:

1. Two bridges will be constructed to span the north and south forks of Campbell Creek and Dowling Tributary;
2. Moose passage has been incorporated into the bridge designs;
3. Bridge abutments and piers were located to minimize impacts to creeks and maintain the greatest buffers;
4. Equalizer culverts will be installed where inundated wetlands occur on both sides of the road;
5. Trench plugs will be installed within the pipeline trench near streams and wetlands to minimize changes in the local subsurface hydrology caused by groundwater flows within the permeable water trench materials in the pipe zone;
6. The road and AWWU pipeline will be constructed as one project thereby avoiding additional wetland fill estimated at approximately 11 acres;
7. The 30-inch AWWU water main that needs to be relocated will be suspended from the north bridge;
8. Retaining walls at the bridge of North Fork Campbell Creek would be used to reduce wetland fill by 0.73 acres. Additional retaining walls have been placed throughout the project to minimize impacts to wetlands;
9. Fully control access between 64th and 48th Avenue, with an allowance for Dowling Road to be connected from the west, to mitigate potential secondary impacts related to development of adjacent wetlands;

10. Biofiltration swales will be used to treat storm water;
11. Moose-vehicle collisions would be reduced with specific designs for fencing, lighting, clearing, and signage;
12. Best management practices would be required of all contractors to minimize water quality and wetland impacts during construction; and,
13. Construction activities would be scheduled and sequenced to avoid sensitive nesting, spawning, and rearing periods.

Additional mitigating measures have been designed to minimize potential impacts to the human environment:

1. Rubberized asphalt will be installed to minimize roadway noise along the area between Abbott Road and the section line of Dowling Road;
2. Construction on Abbott Loop Road would be phases to allow it to remain open with the exception of temporary closures limited to one block at a time;
3. A temporary dogsled trail would be created to minimize interruption to trail usage during construction; a permanent rerouting of the dogsled trails would be created to reconnect all existing trails;
4. A pedestrian tunnel would be incorporated to accommodate the existing Campbell Creek Multi-Use trail;
5. Extensive use of retaining wall also would avoid impacts to private property and parkland.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

COASTAL ZONE MANAGEMENT ACT CERTIFICATION: Section 307(c)(3) of the Coastal Zone, Management Act of 1972, as amended by 16 U.S.C. 1456(c)(3), requires the applicant to certify that the described activity affecting land or water uses in the Coastal Zone complies with the Alaska Coastal Management Program. A permit will not be issued until the Office of Project Management and Permitting, Department of Natural Resources has concurred with the applicant's certification.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are no listed or eligible properties in the vicinity of the worksite. Consultation of the AHRS constitutes the extent of cultural resource investigations by the District Engineer at this time, and he is otherwise unaware of the presence of such resources. This application is being coordinated with the State Historic Preservation Office (SHPO). Any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between the Federal government and

Federally recognized Tribes. This notice invites participation by agencies, Tribes, and members of the public in the Federal decision-making process. In addition, Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Public Notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Engineer during the public comment period.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area. Preliminarily, the described activity will not affect threatened or endangered species, or their critical habitat designated as endangered or threatened, under the Endangered Species Act of 1973 (87 Stat. 844). This application is being coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The proposed work is being evaluated for possible effects to Essential Fish Habitat (EFH) pursuant to the Magnuson Stevens Fishery Conservation and Management Act of 1996 (MSFCMA), 16 U.S.C. *et seq* and associated federal regulations found at 50 CFR 600 Subpart K. The Alaska District includes areas of EFH as Fishery Management Plans. We have reviewed the January 20, 1999, North Pacific Fishery Management Council's Environmental Assessment to locate EFH area as identified by the National Marine Fisheries Service (NMFS).

We have determined that the described activity may adversely affect EFH; the North Fork Campbell Creek, south Fork Campbell Creek, Dowling Tributary, and the North Fork Little Campbell Creek are designated as EFH. The proposed work would affect approximately 0.01 acres of EFH for juvenile and adult salmon.

This Public Notice initiates consultation requirements with the NMFS under the MSFCMA. We have insufficient information at this time to assess the cumulative effects of the proposed work on EFH, but cumulative effects will be considered in our final assessment of the described work. Any conservation recommendations regarding EFH for federally managed fish will also be considered in our final assessment of the described work. This proposed project may also adversely affect associated species such as major prey or predator species which are not covered by Fishery Management Plans.

The applicant has avoided impacts to significant creek stretches by bridging the main salmon streams. The loss of habitat noted above relates to the realignment of the Dowling Tributary to avoid construction impacts. The applicant not return the stream to its original channel. The original channel would be destroyed during construction and would need to be re-constructed. Rather than move the creek twice, the applicant will create a new stream channel at least 8 feet from the retaining wall of the bridge. The new stream would incorporate all appropriate measures to replicate or enhance the characteristics of the original stream channel.

SPECIAL AREA DESIGNATION: None.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The

benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Dr. Maureen McCrea at (907) 753-2724, toll free from within Alaska at (800) 478-2712, or by email at maureen.mccrea@poa02.usace.army.mil if further information is desired concerning this notice.

AUTHORITY: This permit will be issued or denied under the following authorities:

(X) Discharge dredged or fill material into waters of the United States - Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

A plan, Notice of Application for Certification of Consistency with the Alaska Coastal Management Program, and Notice of Application for State Water Quality Certification are attached to this Public Notice.

District Engineer
U.S. Army, Corps of Engineers

Attachments

STATE OF ALASKA

OFFICE OF THE GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF WATER

401 Certification Program

Non-Point Source Water Pollution Control Program

NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice No. **POA-2003-1081-4 & POA-1989-402P, Campbell Creek**, serves as application for State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify that there is reasonable assurance that the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

Any person desiring to comment on the project with respect to Water Quality Certification may submit written comments within 30 days of the date of the Corps of Engineer's Public Notice to:

Department of Environmental Conservation
WQM/401 Certification
555 Cordova Street
Anchorage, Alaska 99501-2617
Telephone: (907) 269-7564
FAX: (907) 269-7508

STATE OF ALASKA

OFFICE OF THE GOVERNOR

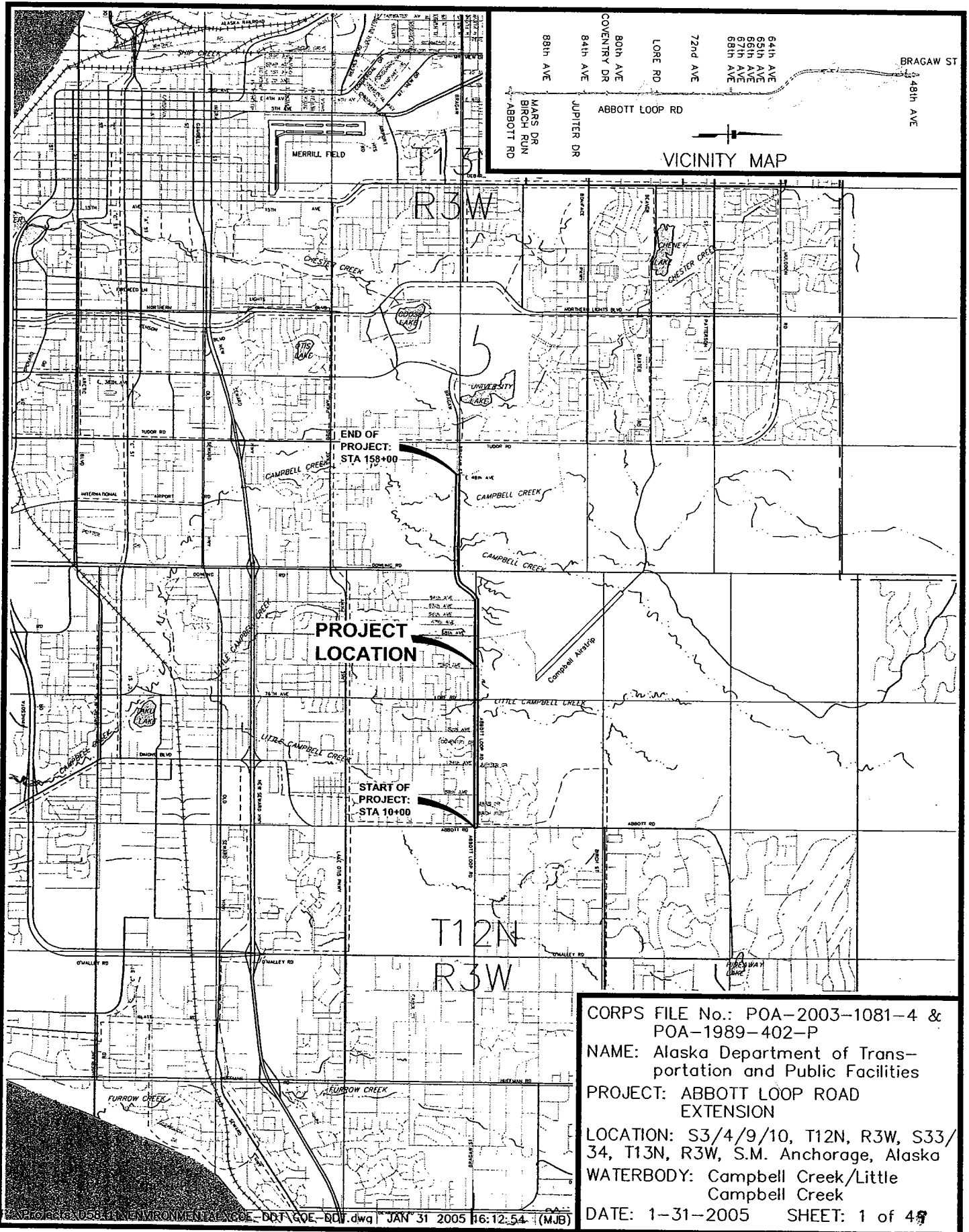
**DEPARTMENT OF NATURAL RESOURCES
OFFICE OF PROJECT MANAGEMENT AND PERMITTING**

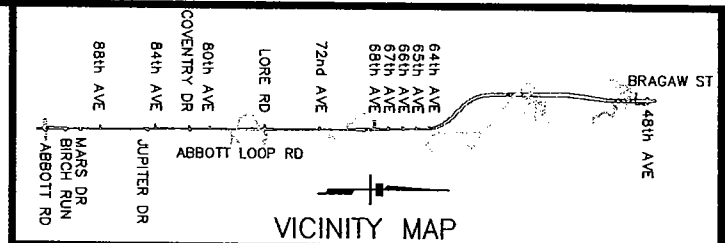
ALASKA COASTAL ZONE MANAGEMENT
550 WEST 7TH AVENUE, SUITE 1660
ANCHORAGE, ALASKA 99501-3568

**NOTICE OF APPLICATION
FOR
CERTIFICATION OF CONSISTENCY WITH THE
ALASKA COASTAL MANAGEMENT PROGRAM**

Notice is hereby given that a request is being filed with the Office of Project Management and Permitting for a consistency determination, as provided in Section 307(c)(3) of the Coastal Zone Management Act of 1972, as amended [16 U.S.C. 1456(c)(3)], that the project described in the Corps of Engineers Public Notice No. **POA-2003-1081-4 & POA-1989-402P, Campbell Creek**, will comply with the Alaska Coastal Management Program and that the project will be conducted in a manner consistent with that program.

The Office of Project Management and Permitting requests your comments, particularly on the proposed project's consistency with the affected local coastal district management program. For more information on the consistency review contact OPMP at (907) 269-7470 or (907) 465-3562, or visit the ACMP web site at <http://www.gov.state.ak.us/gdc/Projects/projects.html>.





LEGEND			
①	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	⑩	REMOVAL OF MANHOLE
②	REMOVAL OF PAVEMENT	⑪	REMOVE AND REPLACE FIRE HYDRANT
③	REMOVAL OF CURB AND GUTTER	⑫	REMOVE AND RELOCATE EXISTING MONUMENTAL SIGN AND FOUNDATION
④	REMOVAL OF SIDEWALK	⑬	ADJUST JUNCTION BOX
⑤	SALVAGE SIGN	⑭	REMOVE CULVERT
⑥	REMOVE AND REPLACE JUNCTION BOX	⑮	SALVAGE SIGNAL SYSTEM COMPLETE
⑦	ADJUST EXISTING MANHOLE	⑯	PROTECT IN PLACE
⑧	ADJUST VALVE BOX TO FINISH GRADE		
⑨	CLEARING AND GRUBBING		

ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AVE	AVENUE	EP	EDGE OF PAVEMENT	MHFL	MANHOLE FRAME AND LID	SHLD'R	SHOULDER
BLVD	BOULEVARD	EVC	END OF VERTICAL CURVE	MIN	MINIMUM	SSMH	SANITARY SEWER MANHOLE
BM	BENCH MARK	F&G	FRAME AND GRATE	OC	ON CENTER	ST	STREET
BVC	BEGINNING OF VERTICAL CURVE	F&I	FURNISH AND INSTALL	PC	POINT OF CURVATURE	STA	STATION
CBMH	CATCH BASIN MANHOLE	F&L	FRAME AND LID	PCC	PORTLAND CEMENT CONCRETE	TB	TEST BORE
C&G	CURB AND GUTTER	FI	FIELD INLET	PT	POINT OF TANGENCY	TBC	TOP BACK OF CURB
CIR	CIRCLE	GCB I	GRATE AND CATCH BASIN INLET	PVI	POINT OF VERTICAL CURVE	TR	TRANSITION
CL	CENTER LINE	GV	GATE VALVE	R	RADIUS	VB	VALVE BOX
CMP	CORRUGATED METAL PIPE	HORIZ	HORIZONTAL	ROW	RIGHT-OF-WAY	VC	VERTICAL CURVE
CSP	CORRUGATED STEEL PIPE	HP	HIGH POINT	RT	RIGHT	VT	VERTICAL
CRR	CURB RAMP REFERENCE POINT	INV	INVERT	S	SOUTH	VPC	VERTICAL POINT OF CURVATURE
DIP	DUCTILE IRON PIPE	LT	LEFT	SDCB	STORM DRAIN CATCH BASIN	VPI	VERTICAL POINT OF INTERSECTION
E	EAST	MAX	MAXIMUM	SDMH	STORM DRAIN MANHOLE	VPT	VERTICAL POINT OF TANGENCY
ELEV	ELEVATION	ME	MATCH EXISTING	SE	SIDEWALK EDGE	W	WEST

SUPPLEMENTAL LEGEND		
DESCRIPTION	EXISTING	PROPOSED
EDGE OF GRAVEL ROAD	---	=====
EDGE OF PAVEMENT	---	=====
EDGE OF SHRUBS	~~~~~	~~~~~
ELECTRIC METER	Ⓢ	
ELECTRIC PEDESTAL	Ⓢ	
LUMINAIRE	+	Ⓢ
OVERHEAD ELECTRIC	---	
SANITARY SEWER CLEANOUT	Ⓢ	
SIGNAL POLE w/MAST ARM & LUMINAIRE	Ⓢ	Ⓢ
STORM DRAIN CATCH BASIN MANHOLE	Ⓢ	Ⓢ
STORM DRAIN FIELD INLET	Ⓢ	Ⓢ
TEST BORING	Ⓢ	Ⓢ
RETAINING WALL	=====	=====
WETLAND FILL AREAS		=====

CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

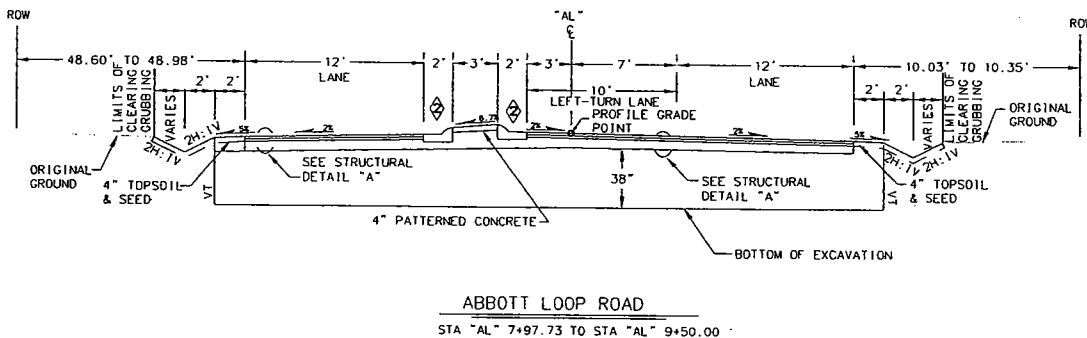
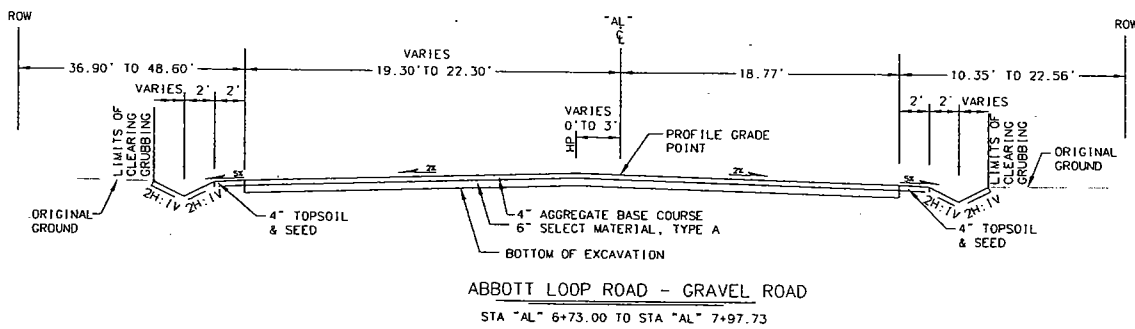
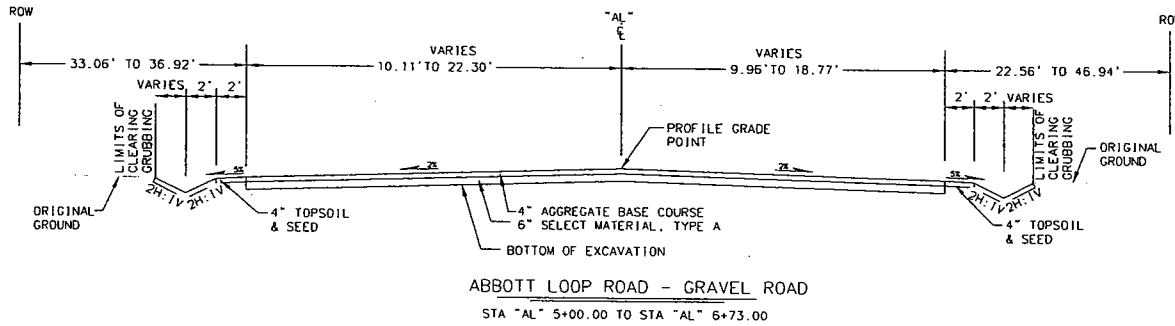
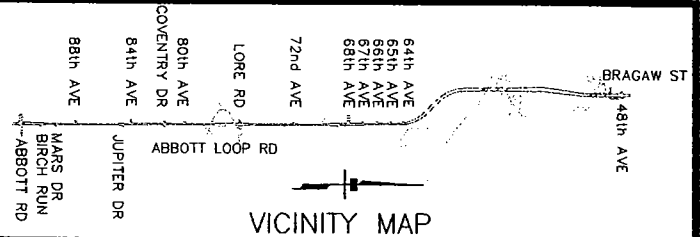
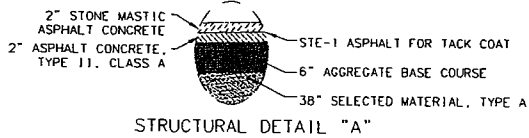
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD
EXTENSION

LOCATION: S3/4/9/10, T12N, R3W, S33/
34, T13N, R3W, S.M. Anchorage, Ak

WATERBODY: Campbell Creek/Little
Campbell Creek

DATE: 1-31-2005 SHEET: 2 of 49



NOTES:

1. FOR STA "AL" 9+50.00 TO STA "AL" 10+55.10 SEE GRADING PLAN (SHEET G1).

LEGEND		
UTILITY	EXISTING	PROPOSED
STORM DRAIN PIPE		(SD)
SANITARY SEWER PIPE	(SS)	
WATER LINE	(W)	(W)
GAS LINE	(G)	
CURB AND GUTTER		
STANDARD		(C)
EXPRESSWAY		(E)

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

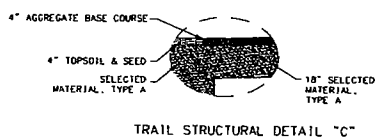
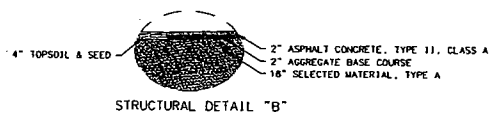
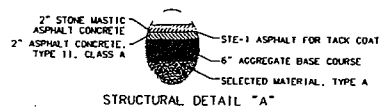
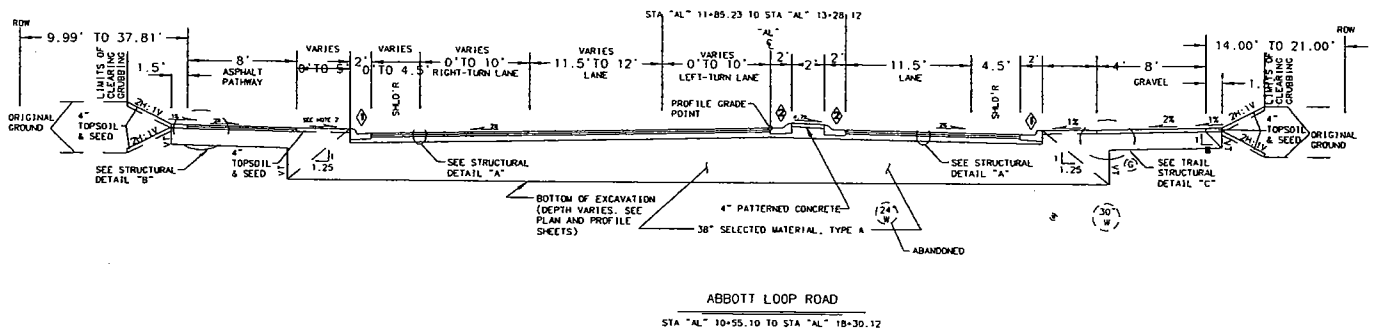
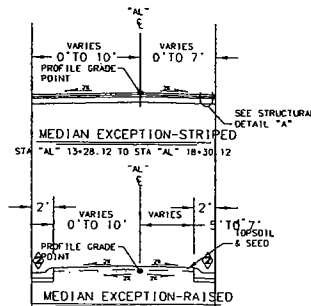
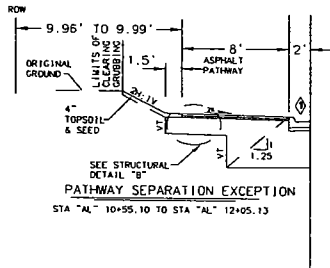
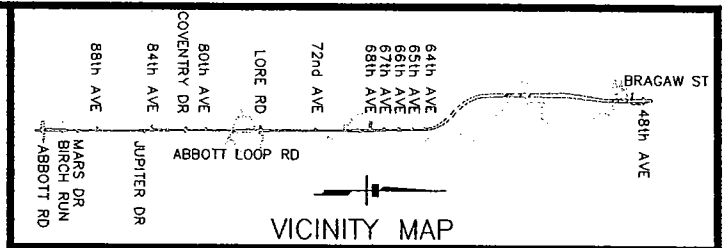
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska

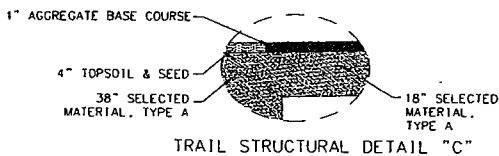
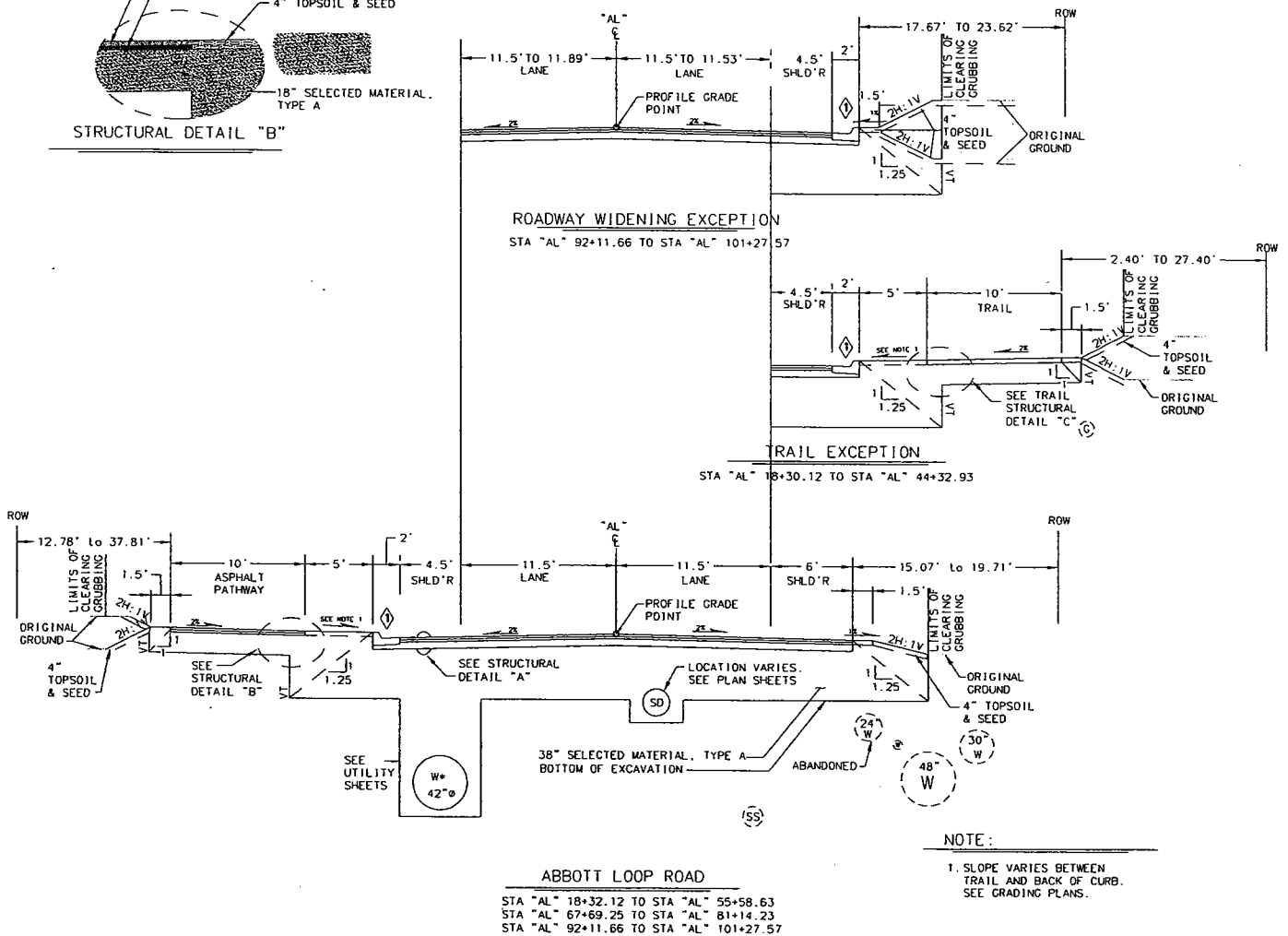
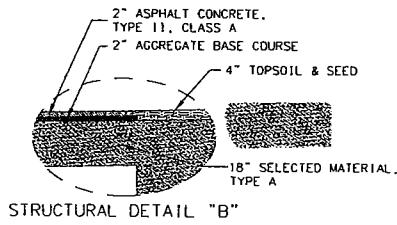
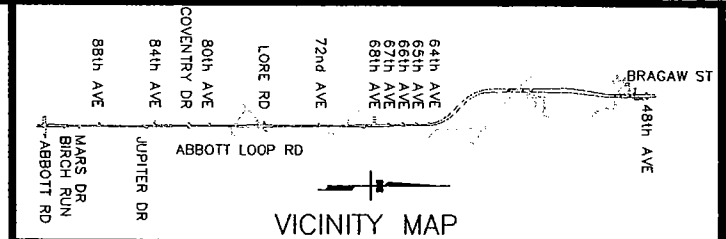
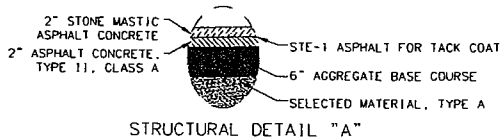
WATERBODY: Campbell Creek/Little Campbell Creek

DATE: 1-31-2005 SHEET: 3 of 49



- NOTES:
1. WATER LINES & GAS LINE POSITION VARIES. SEE PLAN AND PROFILE SHEETS.
 2. SLOPE VARIES BETWEEN THE CURB AND PAVED PATHWAY. SEE GRADING PLANS.

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska
 WATERBODY: Campbell Creek/Little Campbell Creek
 DATE: 1-31-2005 SHEET: 4 of 49



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

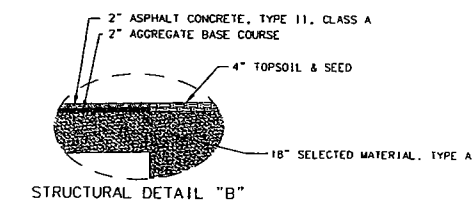
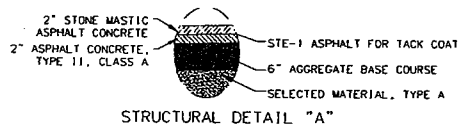
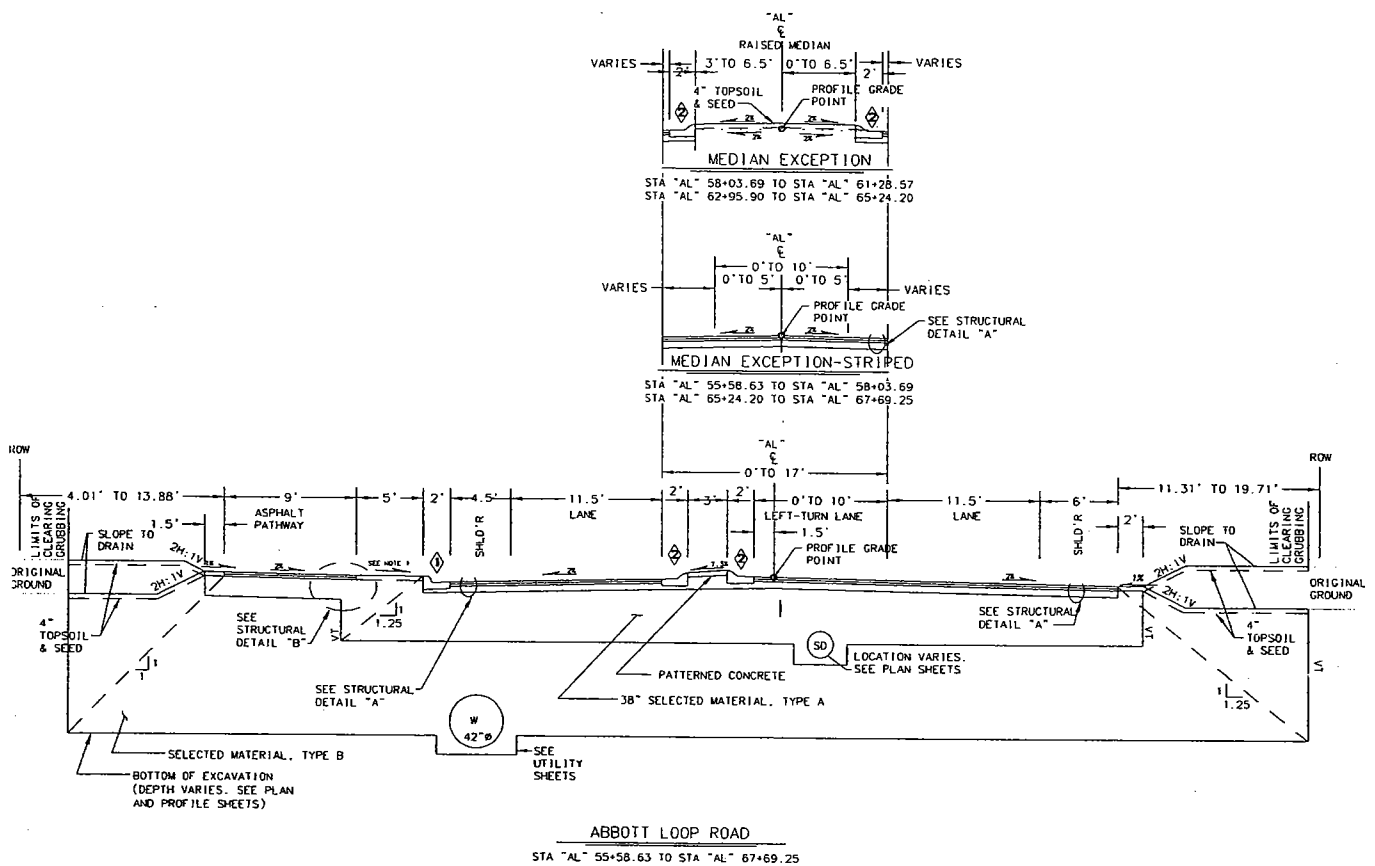
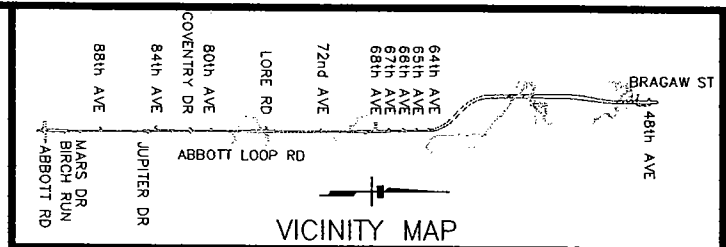
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Campbell Creek/Little Campbell Creek

DATE: 1-31-2005 SHEET: 5 of 49



NOTE:

1. SLOPE VARIES BETWEEN
TRAIL AND BACK OF CURB.
SEE GRADING PLANS.

CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

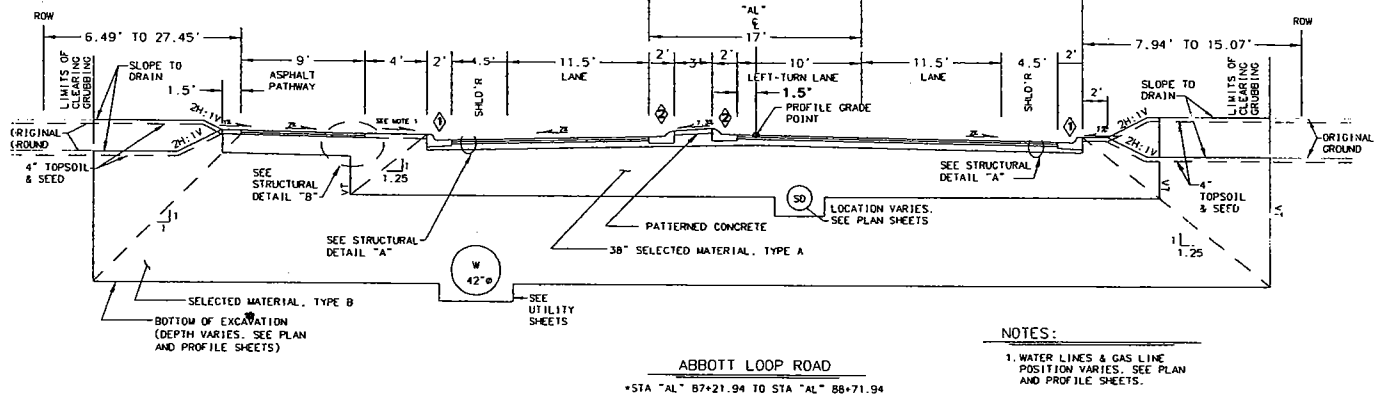
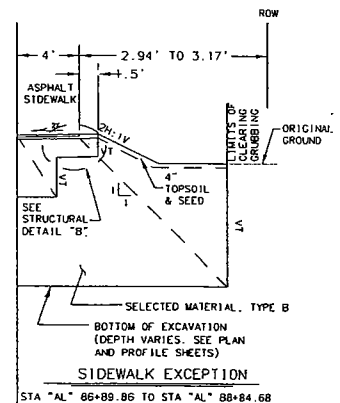
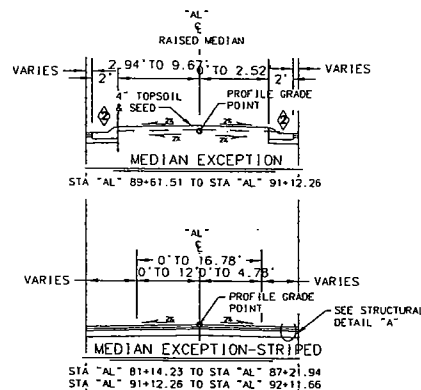
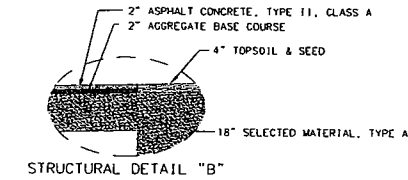
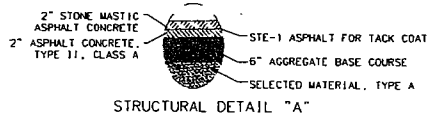
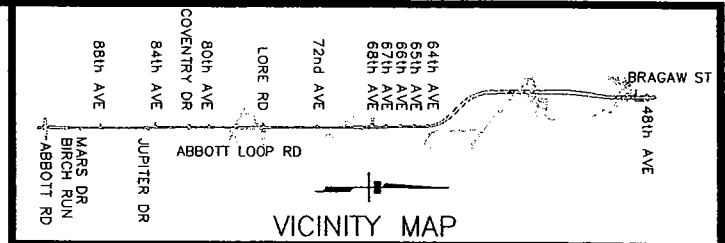
NAME: Alaska Department of Trans-
portation and Public Facilities

PROJECT: ABBOTT LOOP ROAD
EXTENSION

LOCATION: S3/4, T12N, R3W, S.M.
Anchorage, Alaska

WATERBODY: Campbell Creek/Little
Campbell Creek

DATE: 1-31-2005 SHEET: 6 of 49



NOTES:

1. WATER LINES & GAS LINE POSITION VARIES. SEE PLAN AND PROFILE SHEETS.
2. FOR STA "AL" 88+71.94 TO STA "AL" 89+61.51 SEE INTERSECTION GRADING PLAN SHEET G4.

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

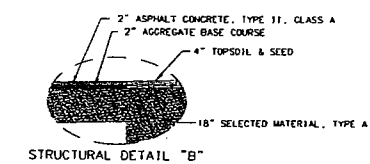
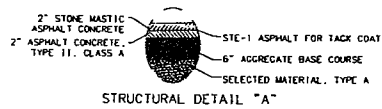
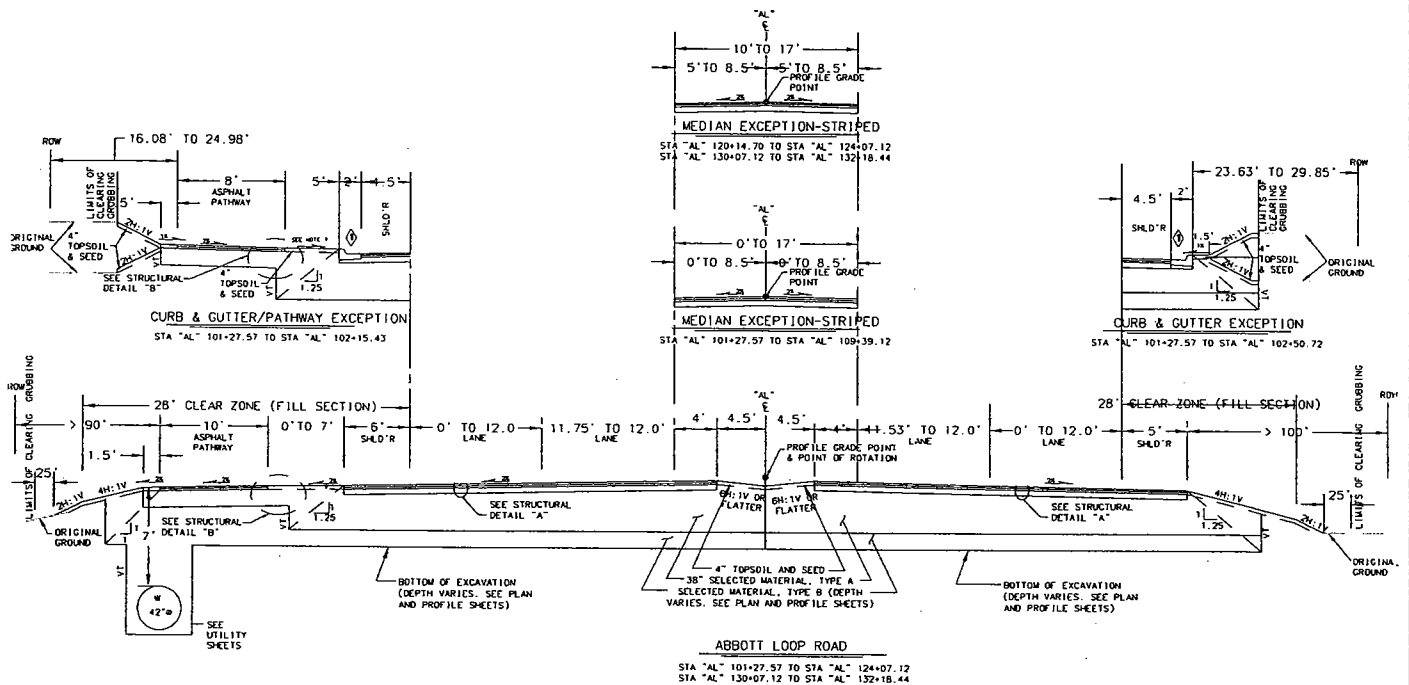
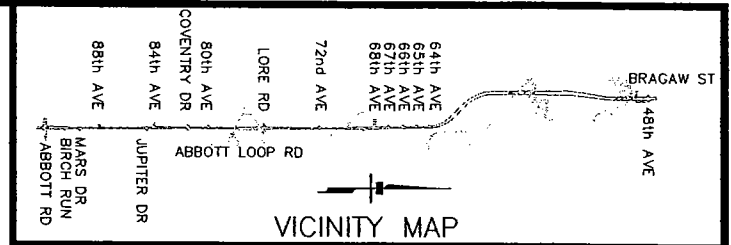
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Campbell Creek/Little Campbell Creek

DATE: 1-31-2005 SHEET: 7 of 49



NOTE:
1. SLOPE VARIES BETWEEN
TRAIL AND BACK OF CURB.
SEE GRADING PLANS.

CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

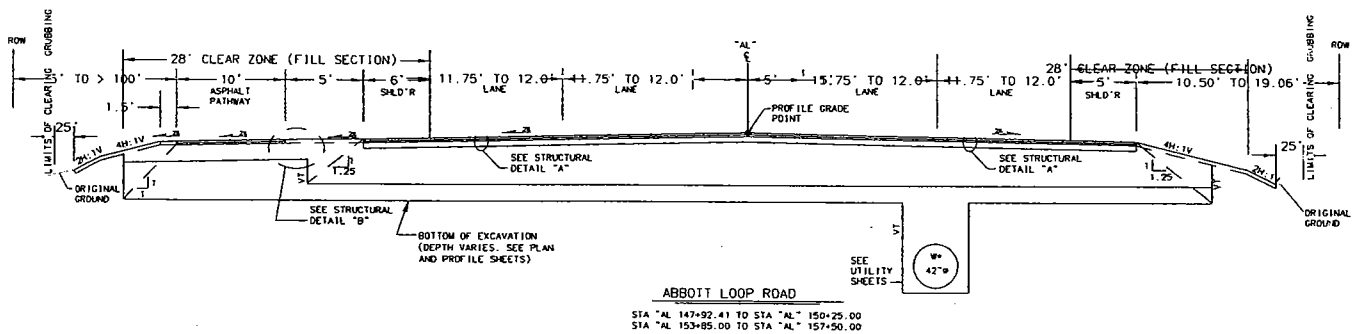
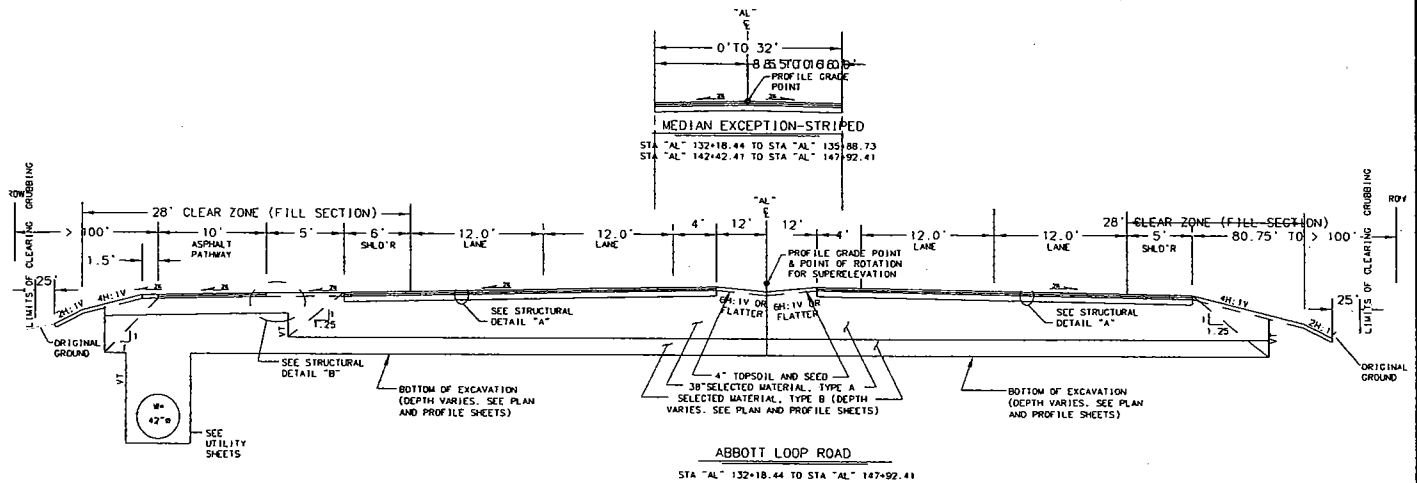
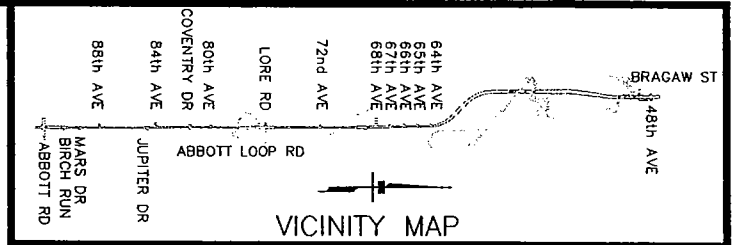
NAME: Alaska Department of Trans-
portation and Public Facilities

PROJECT: ABBOTT LOOP ROAD
EXTENSION

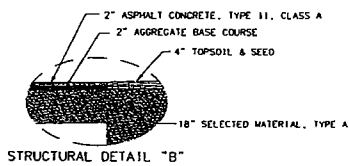
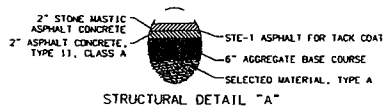
LOCATION: S3/4, T13N, R3W, S.M.
Anchorage, Alaska

WATERBODY: Campbell Creek/Little
Campbell Creek

DATE: 1-31-2005 SHEET: 8 of 49



42" WATER TRANSMISSION LINE CROSSES
STATION LINE TO RIGHT SIDE AT
APPROXIMATE STA "AL" 149+50.



CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

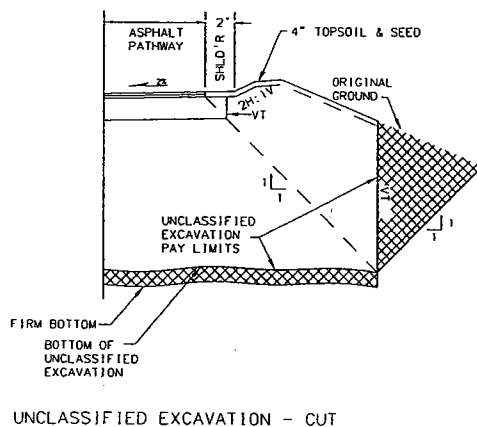
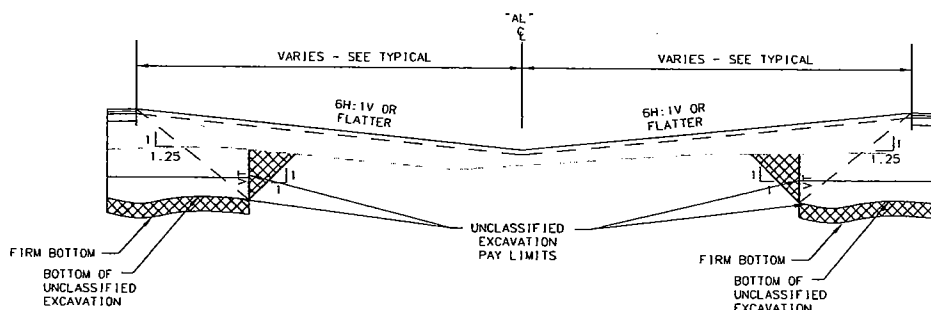
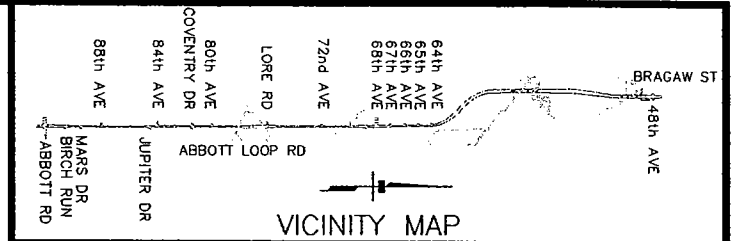
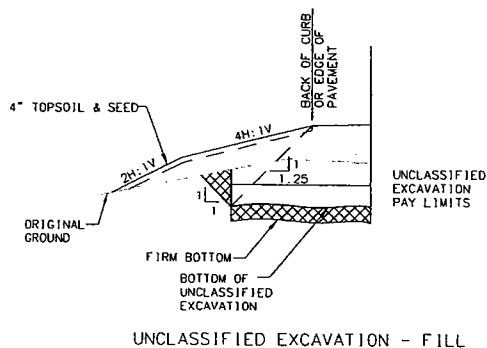
NAME: Alaska Department of Trans-
portation and Public Facilities

PROJECT: ABBOTT LOOP ROAD
EXTENSION

LOCATION: S33/34, T13N, R3W, S.M.
Anchorage, Alaska

WATERBODY: Campbell Creek/Little
Campbell Creek

DATE: 1-31-2005 SHEET: 9 of 49



GENERAL UNCLASSIFIED EXCAVATION NOTES:

1. CROSS HATCHED AREA IS INCLUDED IN THE ESTIMATED BACKFILL QUANTITIES, BUT IS NOT EXCAVATED OR PAID FOR AS UNCLASSIFIED EXCAVATION. PAYMENT FOR EXCAVATION OF HATCHED AREA IS INCIDENTAL TO UNCLASSIFIED EXCAVATION.

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

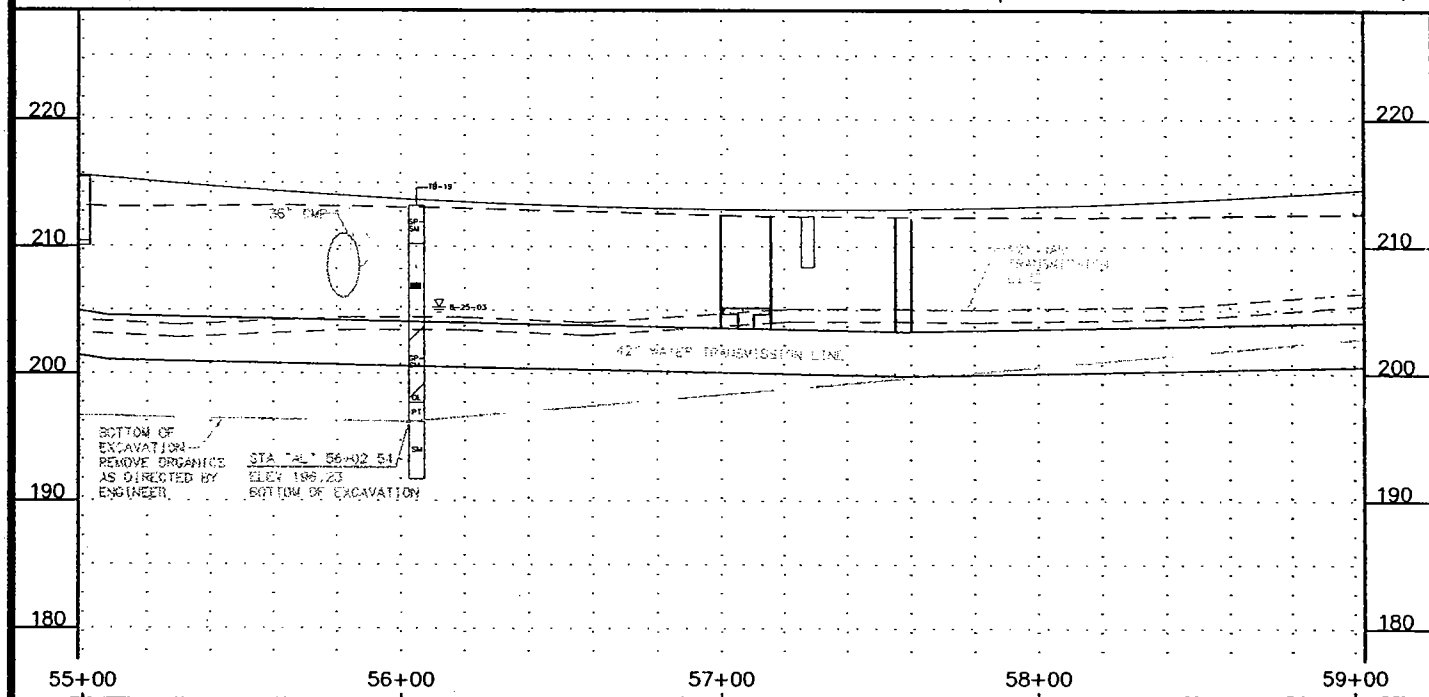
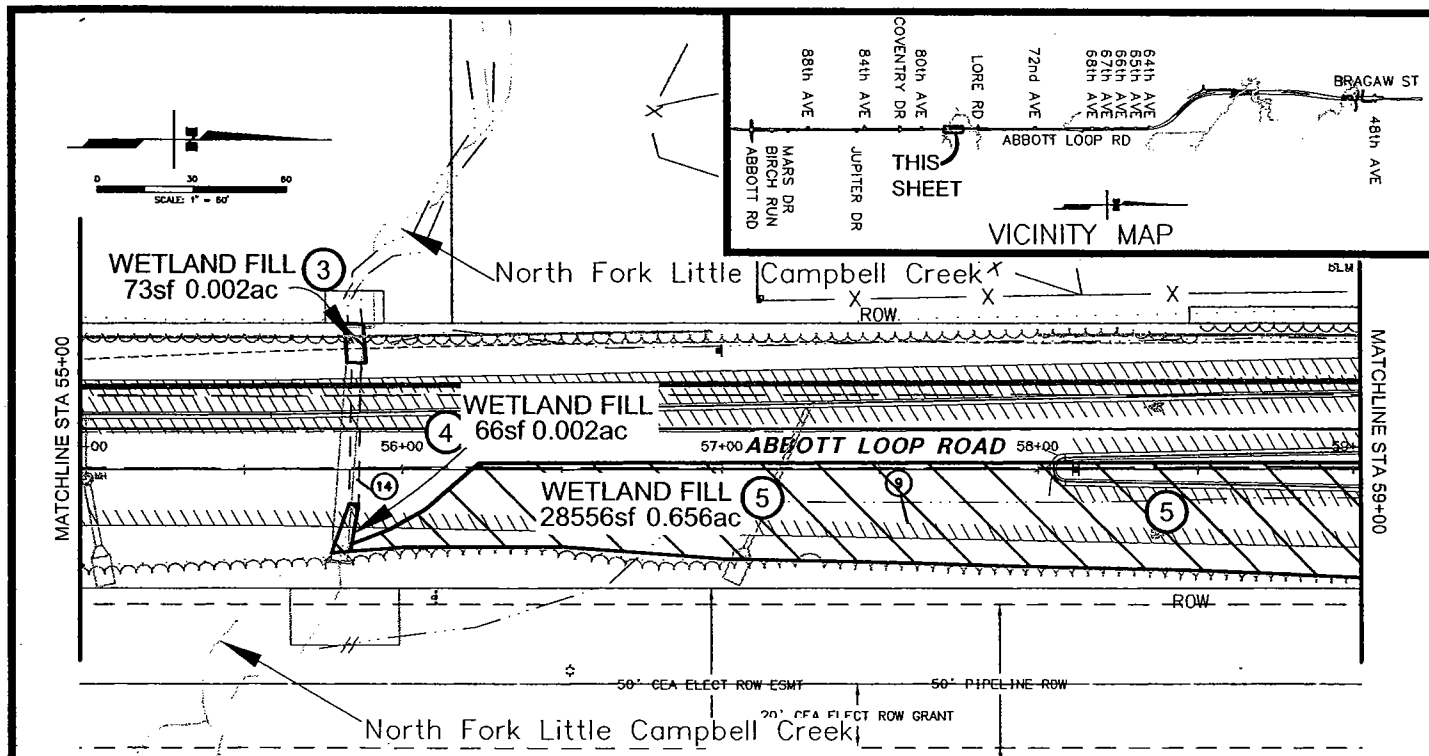
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska

WATERBODY: Campbell Creek/Little Campbell Creek

DATE: 1-31-2005 SHEET: 10 of 49



STRUCTURE SUMMARY						
ID	TYPE	STATION	OFFSET	TOP	CASTING	REMARKS
S-360	A	58+68.06	24.19 LT	213.46	GCB	

PIPE SUMMARY						
603 (1)		INLET		OUTLET		REMARKS
PIPE ID	SIZE	LENGTH	FROM INV. ELEV.	TO INV. ELEV.	GRADE %	
P-355	60"	73.22	55+79.84 28.54 RT	206.67	1.02	55+85.69 44.45 LT
603 (21)						
P-360	18"	65.15	S-360	209.96	0.30	OUTFALL
				209.63		OUTFALL STA "AL" 58+69.37 OFFSET 40.94 LT, END SECTION

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

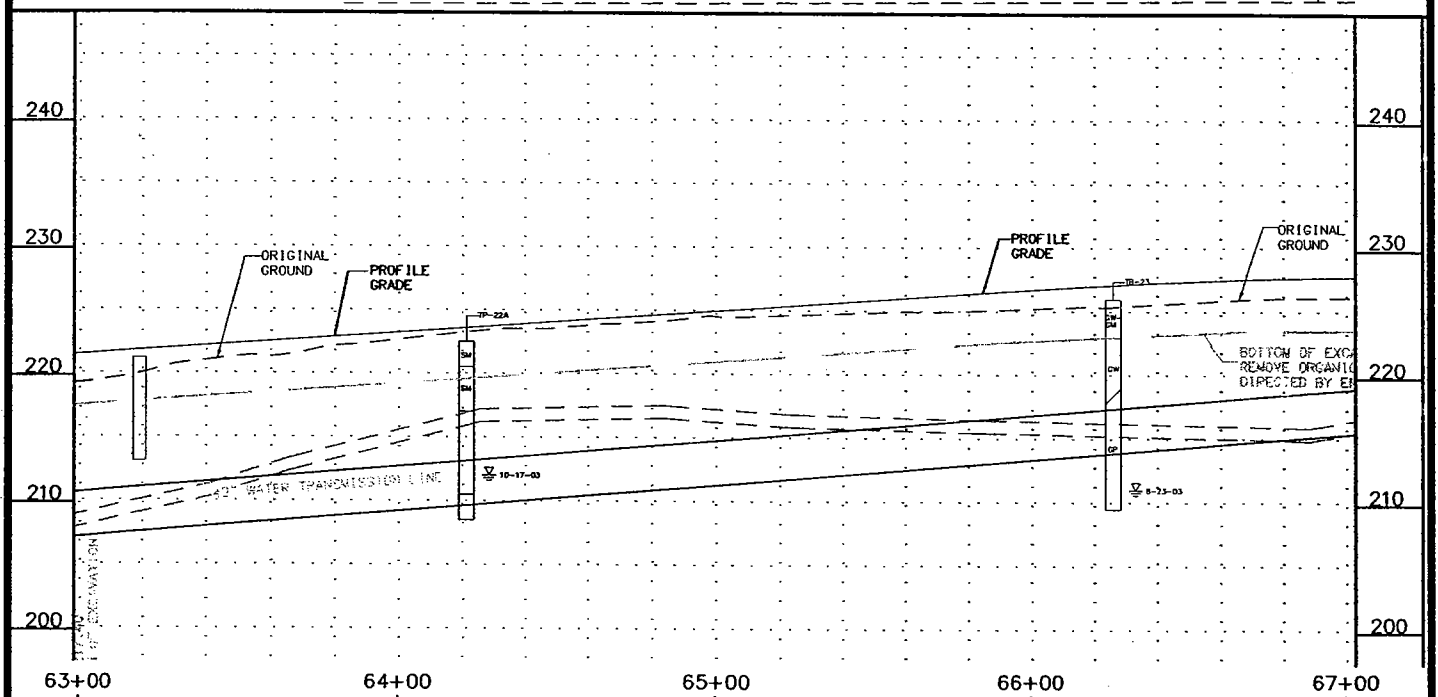
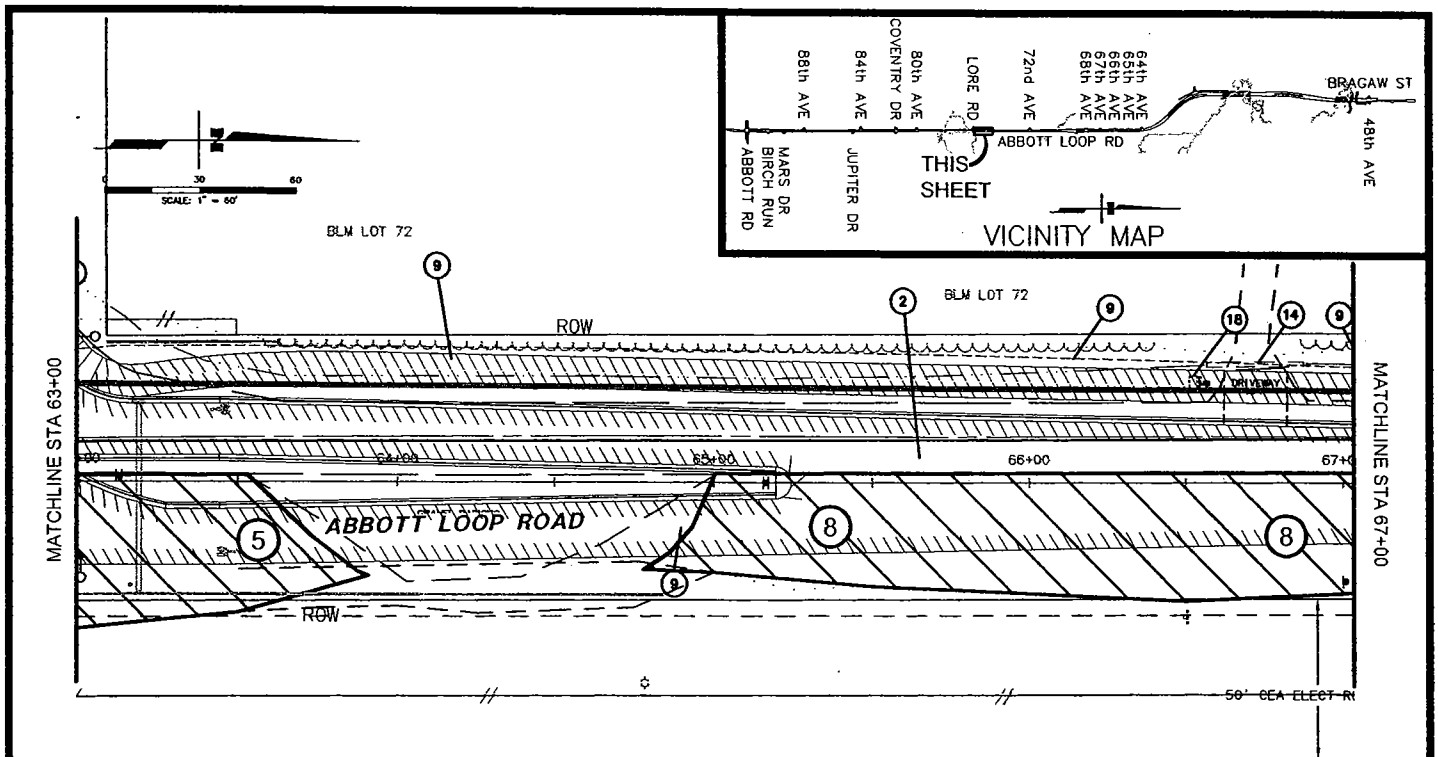
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: North Fork Little Campbell Creek

DATE: 1-31-2005 SHEET: 12 of 49



STRUCTURE SUMMARY						
ID	TYPE	STATION	OFFSET	CASTING TOP	TYPE	REMARKS
S-370	A	63+19.04	26.50 LT	221.26	GCBI	

PIPE SUMMARY						
603 (21)		INLET		OUTLET		REMARKS
PIPE ID	SIZE	LENGTH	FROM INV. ELEV.	GRADE %	TO INV. ELEV.	
P-370	18"	25.87	S-370 216.26	1.00	S-380 216.00	

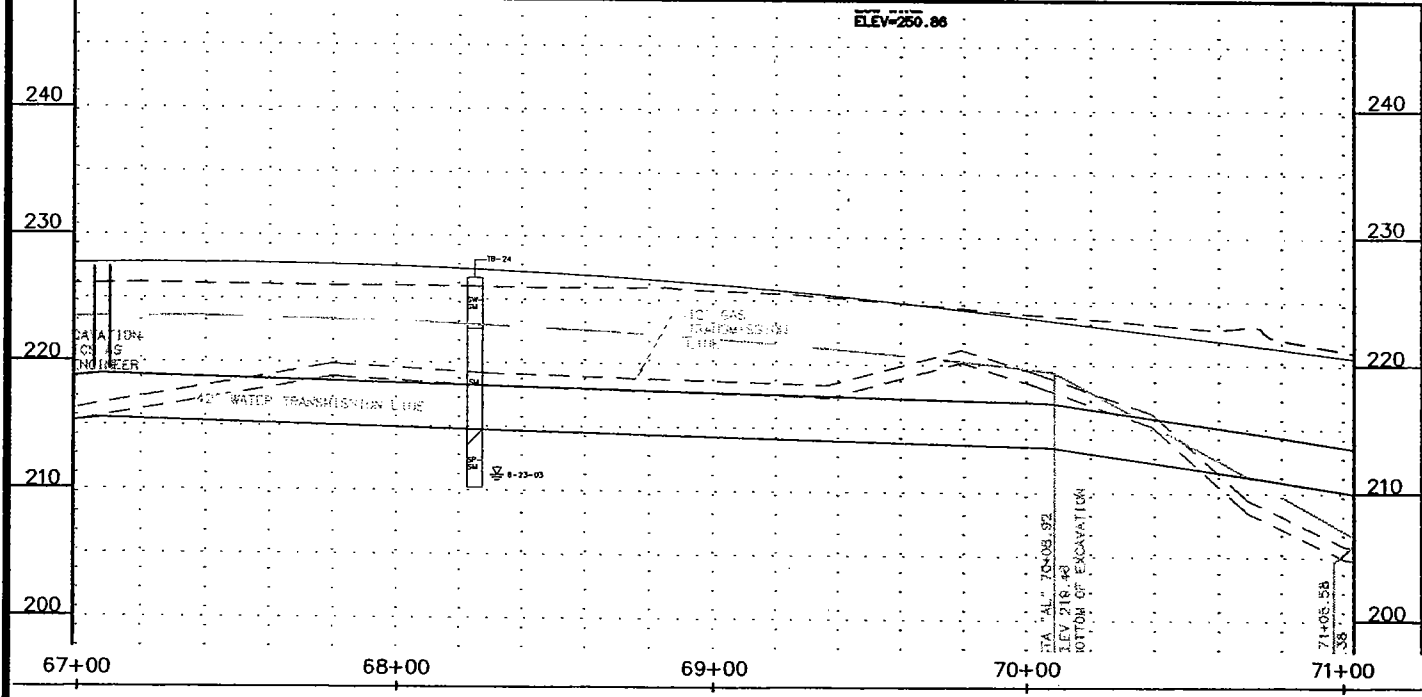
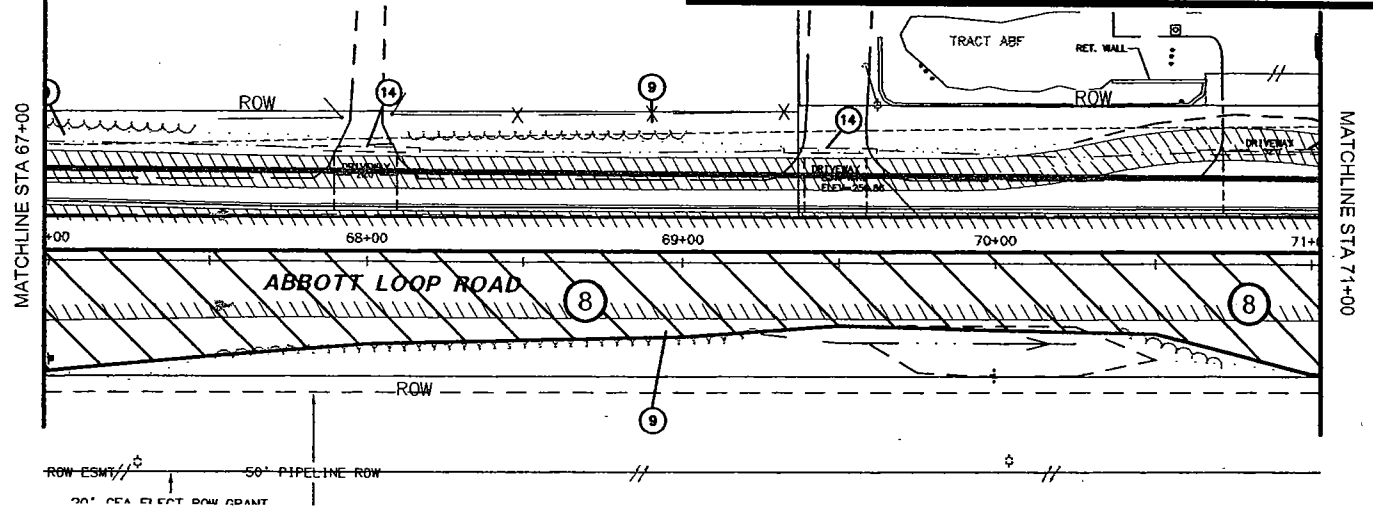
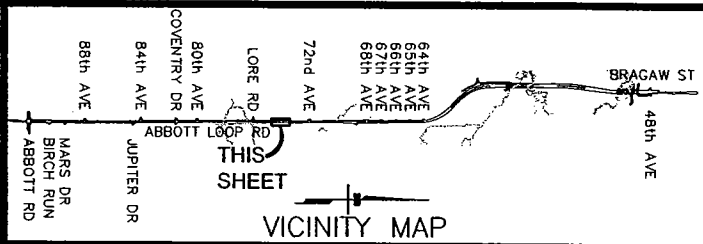
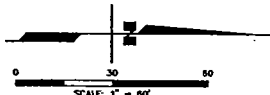
CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

NAME: Alaska Department of Transportation and Public Facilities

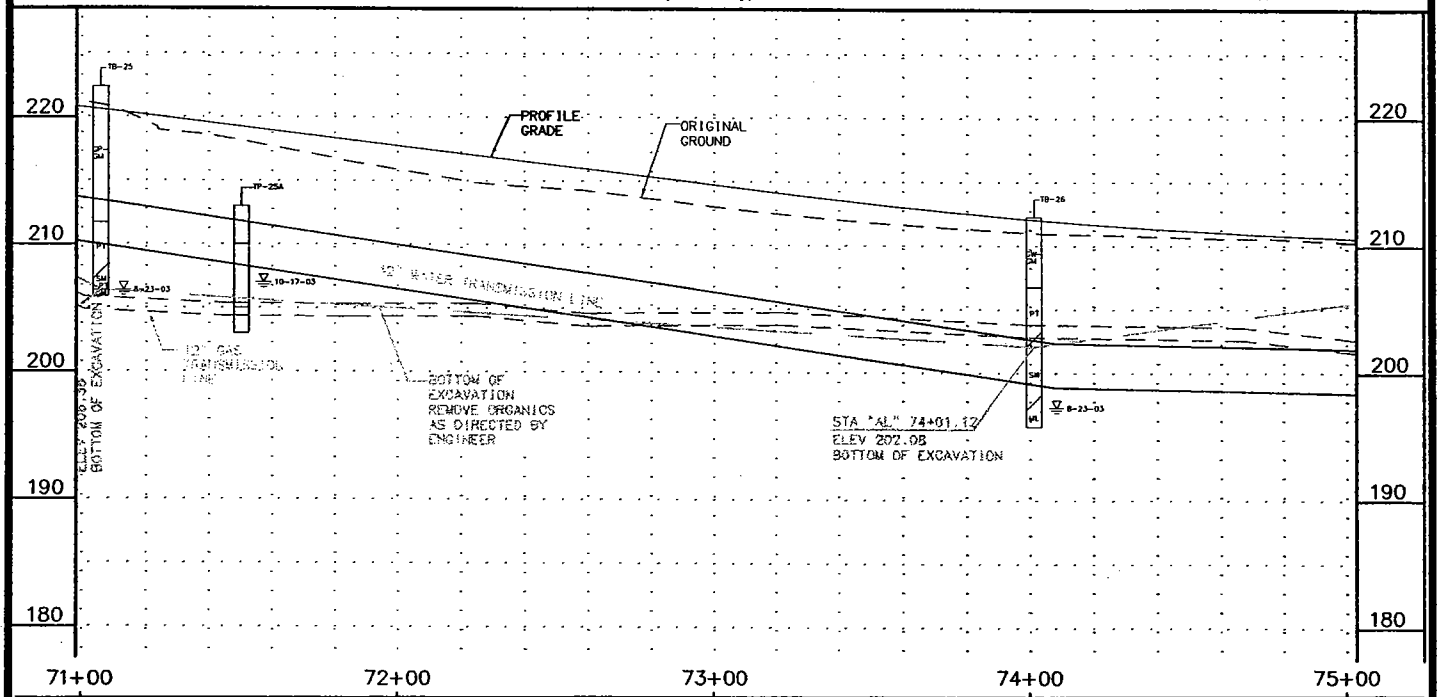
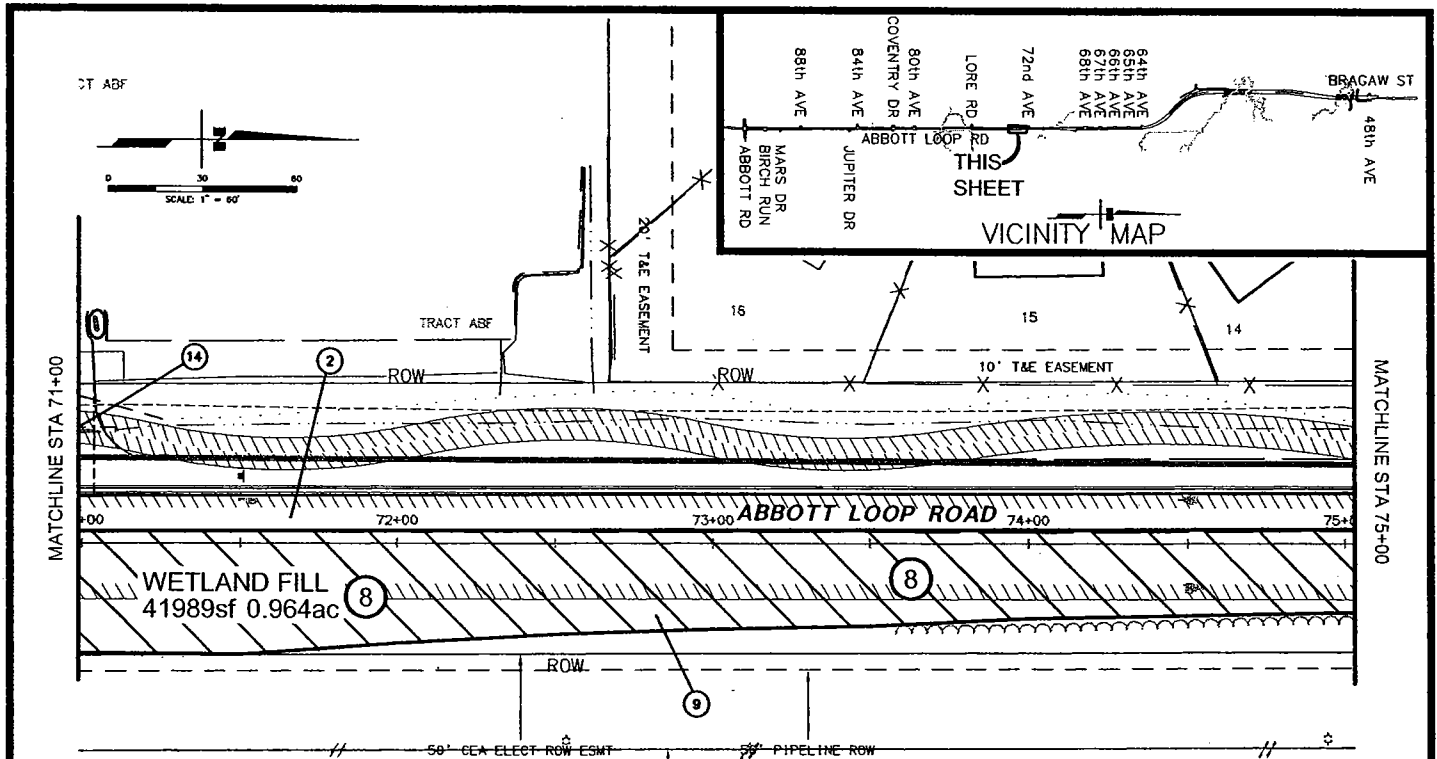
PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska

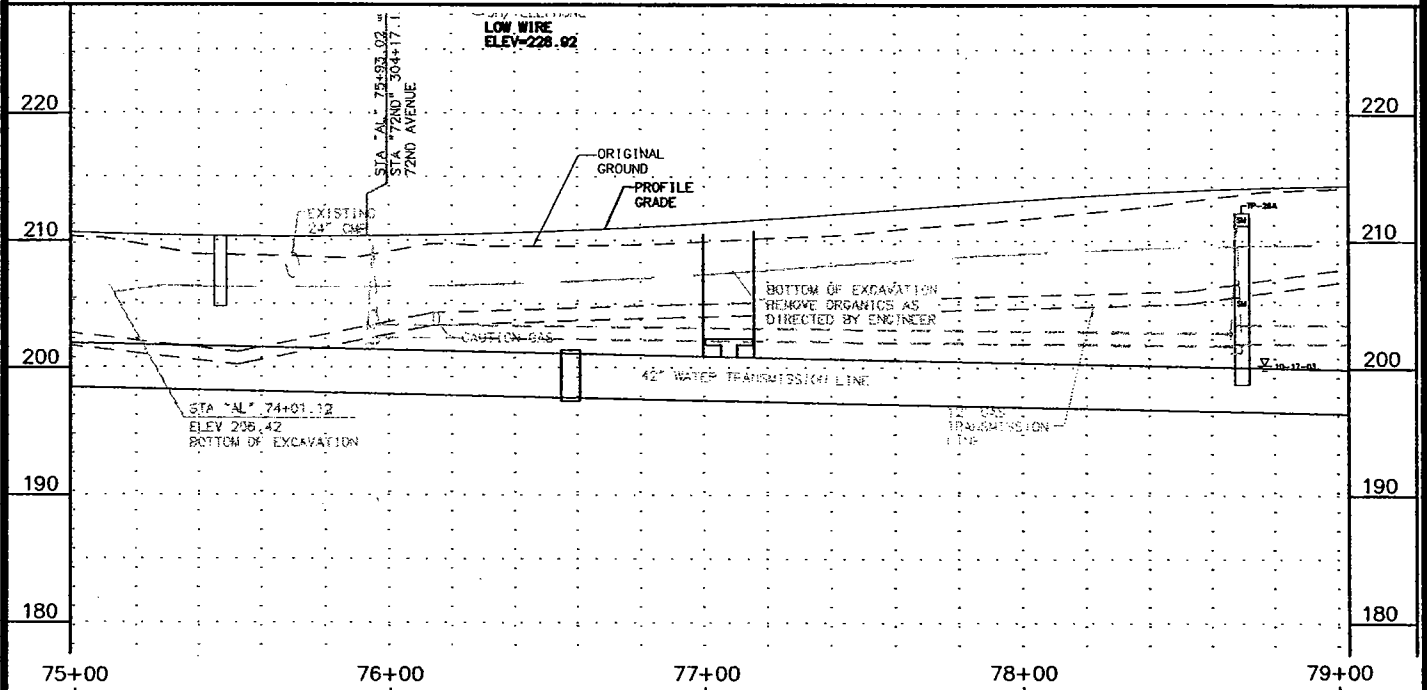
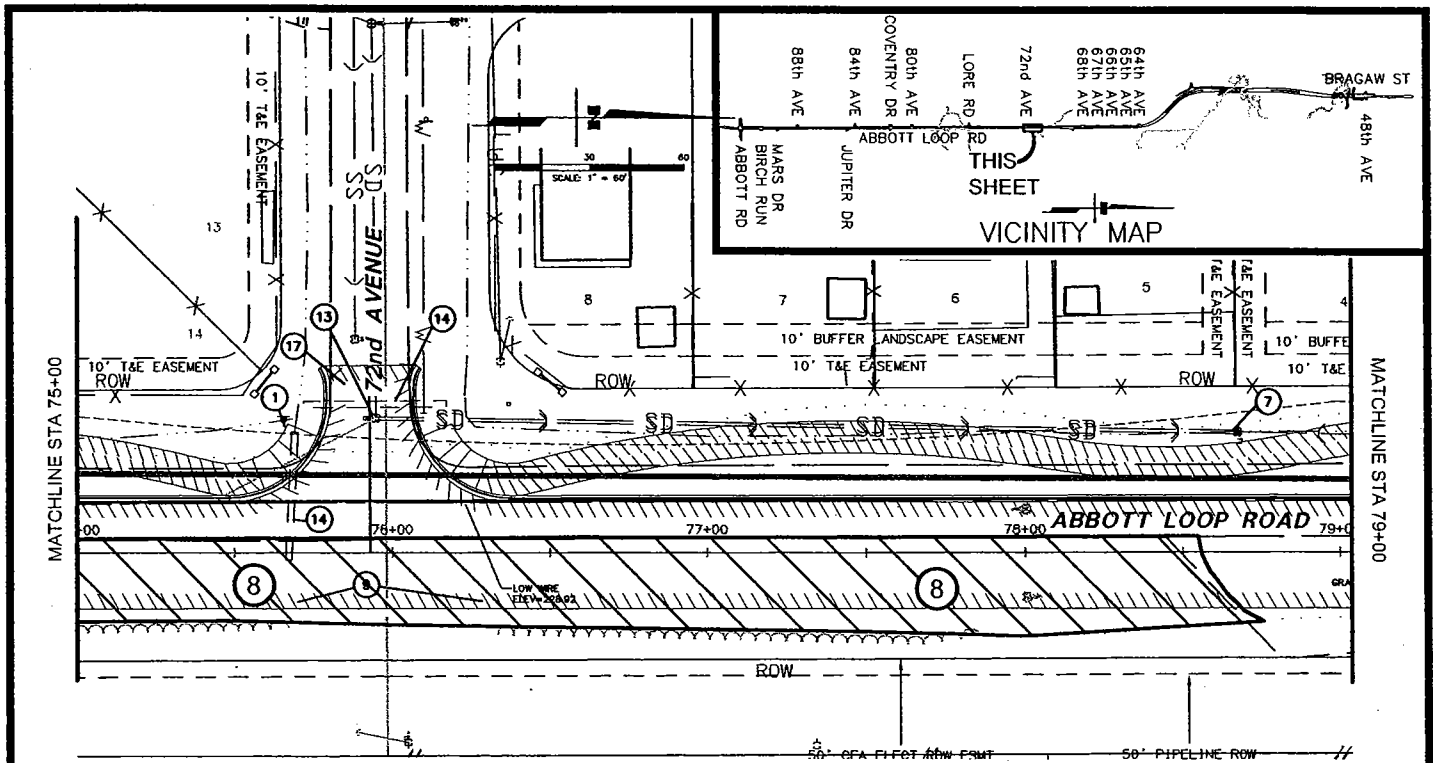
WATERBODY: Lore Tributary



CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD
EXTENSION
LOCATION: S3/4, T12N, R3W, S.M.
Anchorage, Alaska
WATERBODY: Kasuun Tributary



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska
 WATERBODY: Kasuun Tributary



STRUCTURE SUMMARY					
ID	TYPE	STATION	OFFSET	CASTING	REMARKS
S-389	A	75+69.00	45.00 LT	207.60	GCBI
S-390	A	75+46.84	18.00 LT	209.99	GCBI
S-391	I	75+46.84	3.00 RT	210.29	MHFL
S-392	I	77+76.00	3.00 RT	212.59	MHFL

PIPE SUMMARY						
603 (21)		INLET		OUTLET		REMARKS
PIPE ID	SIZE	FROM	INV. ELEV.	TO	INV. ELEV.	
P-389	18"	S-389	202.60	S-390	202.49	
P-390	18"	S-390	202.44	S-391	202.37	
P-391	18"	S-391	202.32	S-392	201.63	

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

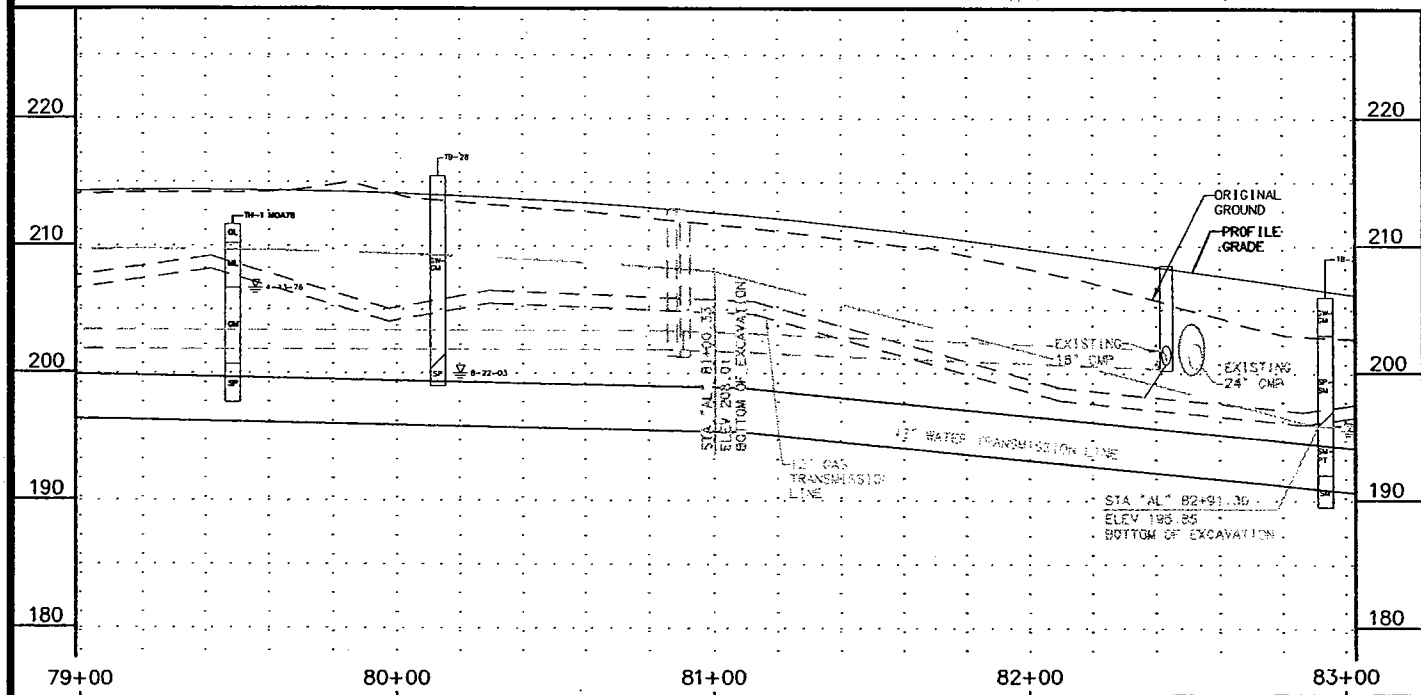
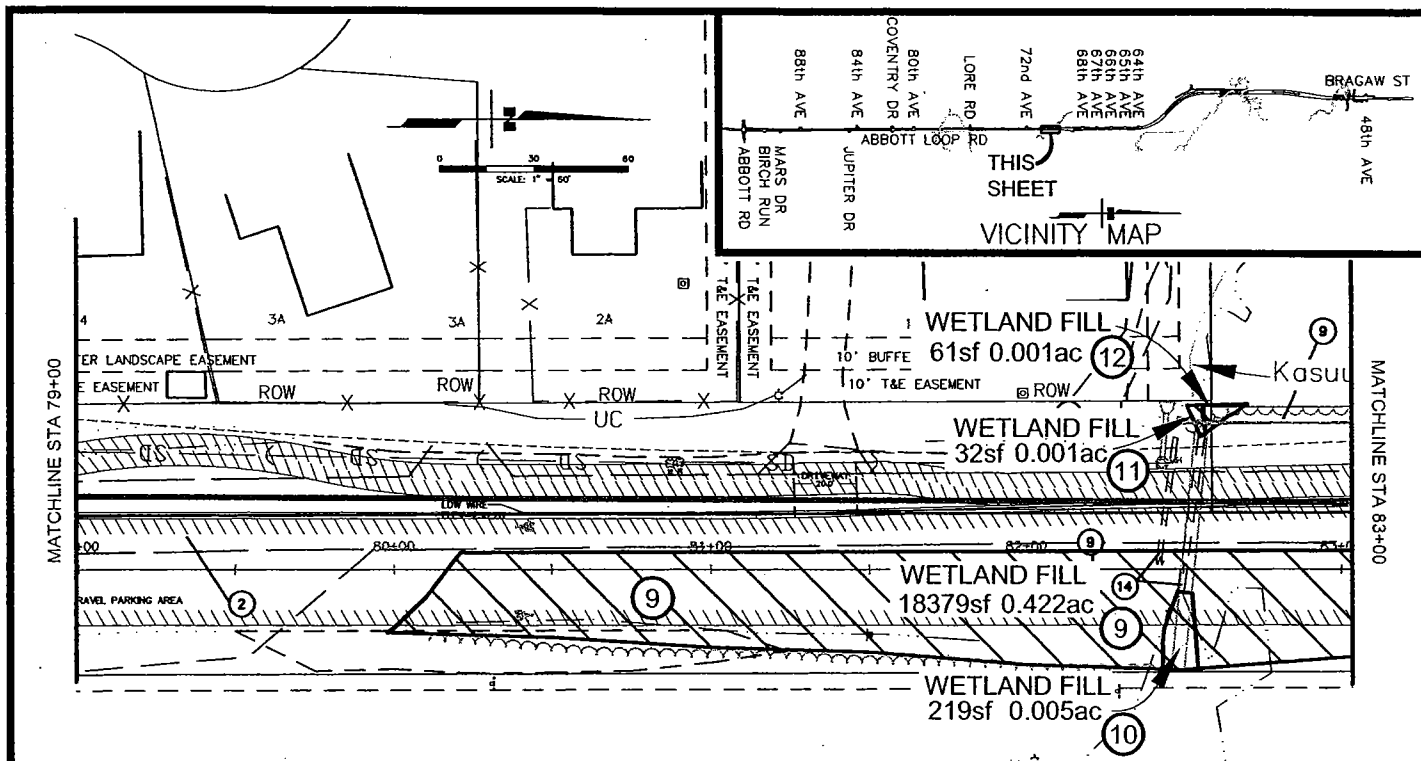
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Kasuun Tributary

DATE: 1-31-2005 SHEET: 17 of 49



STRUCTURE SUMMARY						REMARKS
ID	TYPE	STATION	OFFSET	TOP	TYPE	
S-393	I	80+00.00	3.00 RT	213.37	MHFL	
S-394	I	82+29.00	3.00 RT	208.71	MHFL	

PIPE SUMMARY							REMARKS
PIPE ID	SIZE	LENGTH	FROM	INV. ELEV.	GRADE %	TO	
P-392	18"	230.00	S-392	201.53	0.4	S-393	200.61
P-395	48"	82.10	82+48.35	199.50	1.0	82+55.46	198.68
			35.0 RT			45.0 LT	
P-393	18"	223.00	S-393	200.51	0.4	S-394	199.62
P-394	18"	55.00	S-394	199.52	0.4	OUTFALL	199.30
							OUTFALL AT STA "AL" 82+47.85 OFFSET 46.46 LT, END SECTION

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

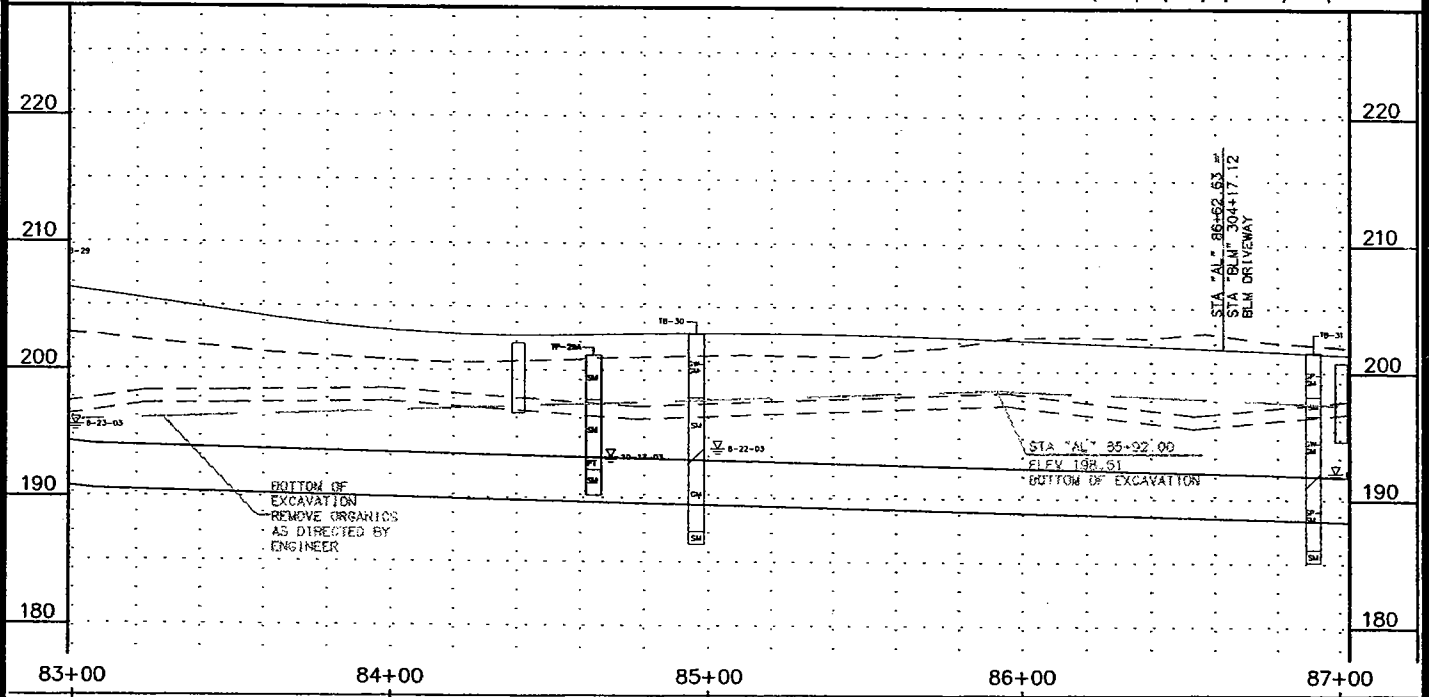
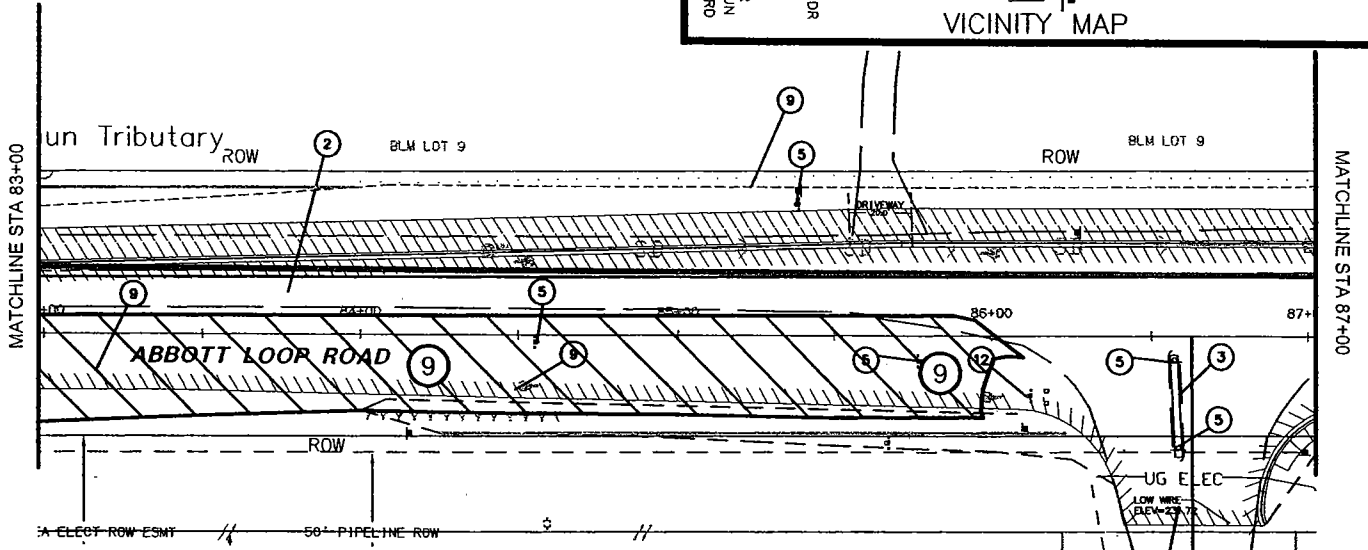
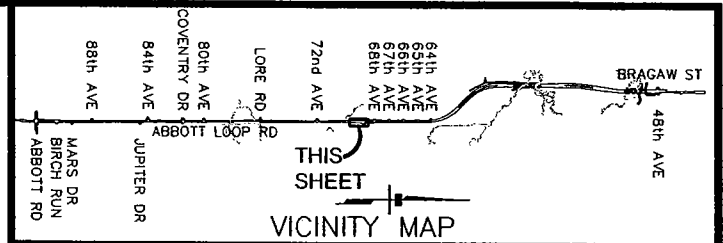
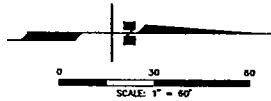
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Kasuun Tributary

DATE: 1-31-2005 SHEET: 18 of 49



STRUCTURE SUMMARY				
STRUCTURE	TYPE	STATION	OFFSET	REMARKS
S-400	A	84+40.51	26.56 LT	202.21 GCBI

603 (21)		INLET		GRADE %		OUTLET		REMARKS
PIPE ID	SIZE	FROM	INV. ELEV.	TO	INV. ELEV.	TO	INV. ELEV.	
P-400	18"	58.96	S-400	197.21	0.41	OUTFALL	196.97	OUTFALL AT STA "AL" 84+40.92 OFFSET 32.40 RT, END SECTION

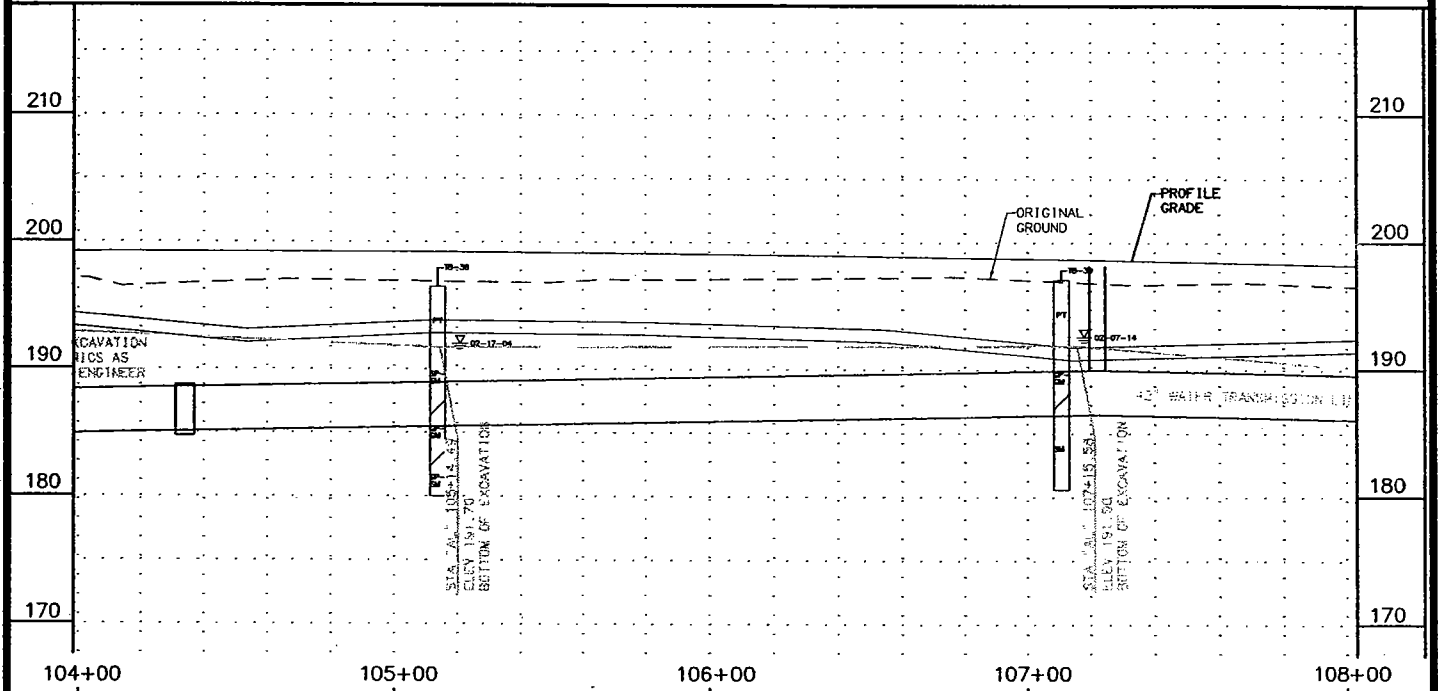
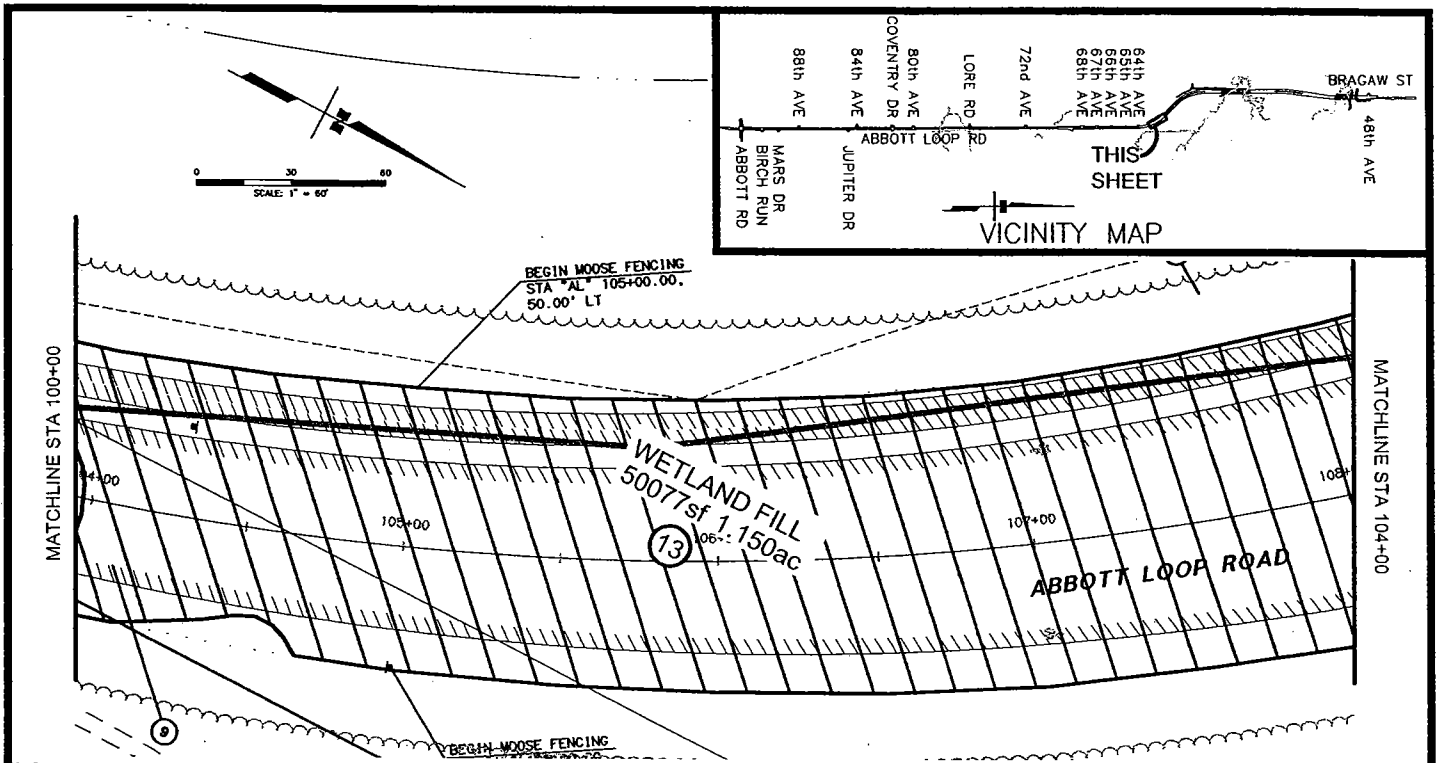
CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

NAME: Alaska Department of Transportation and Public Facilities

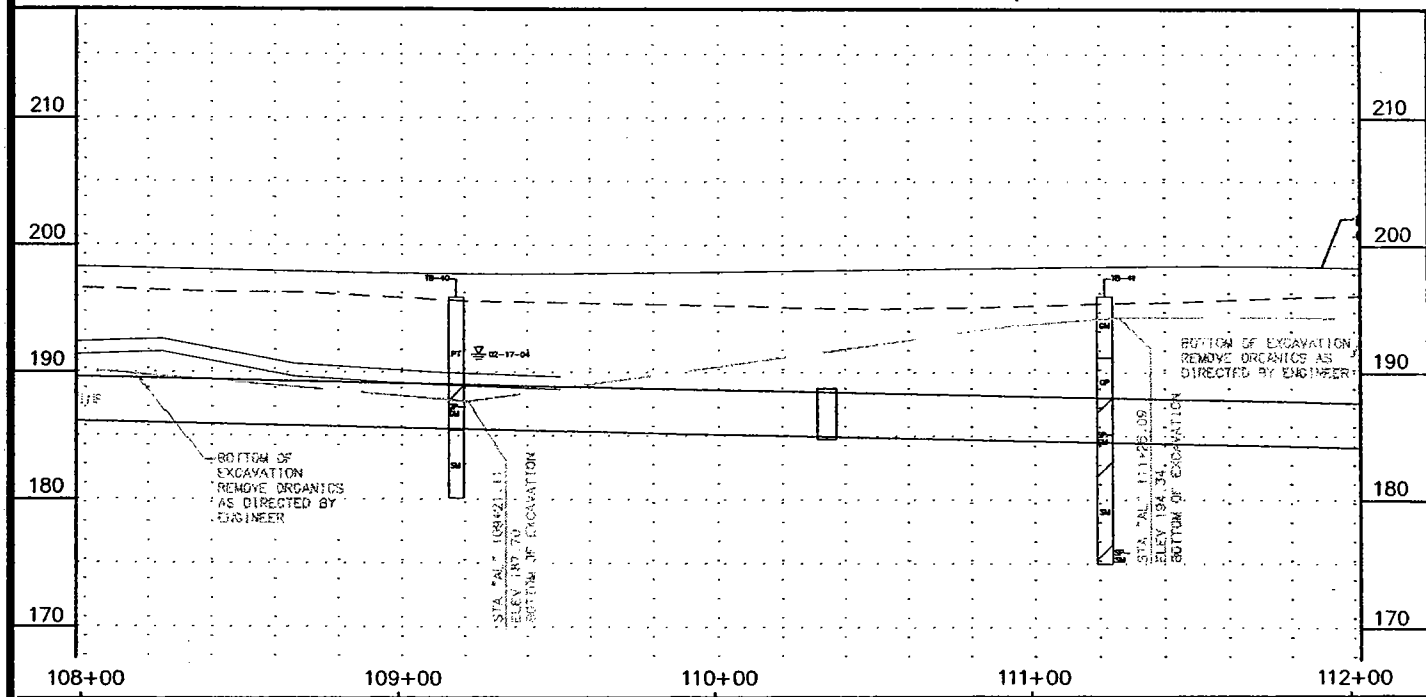
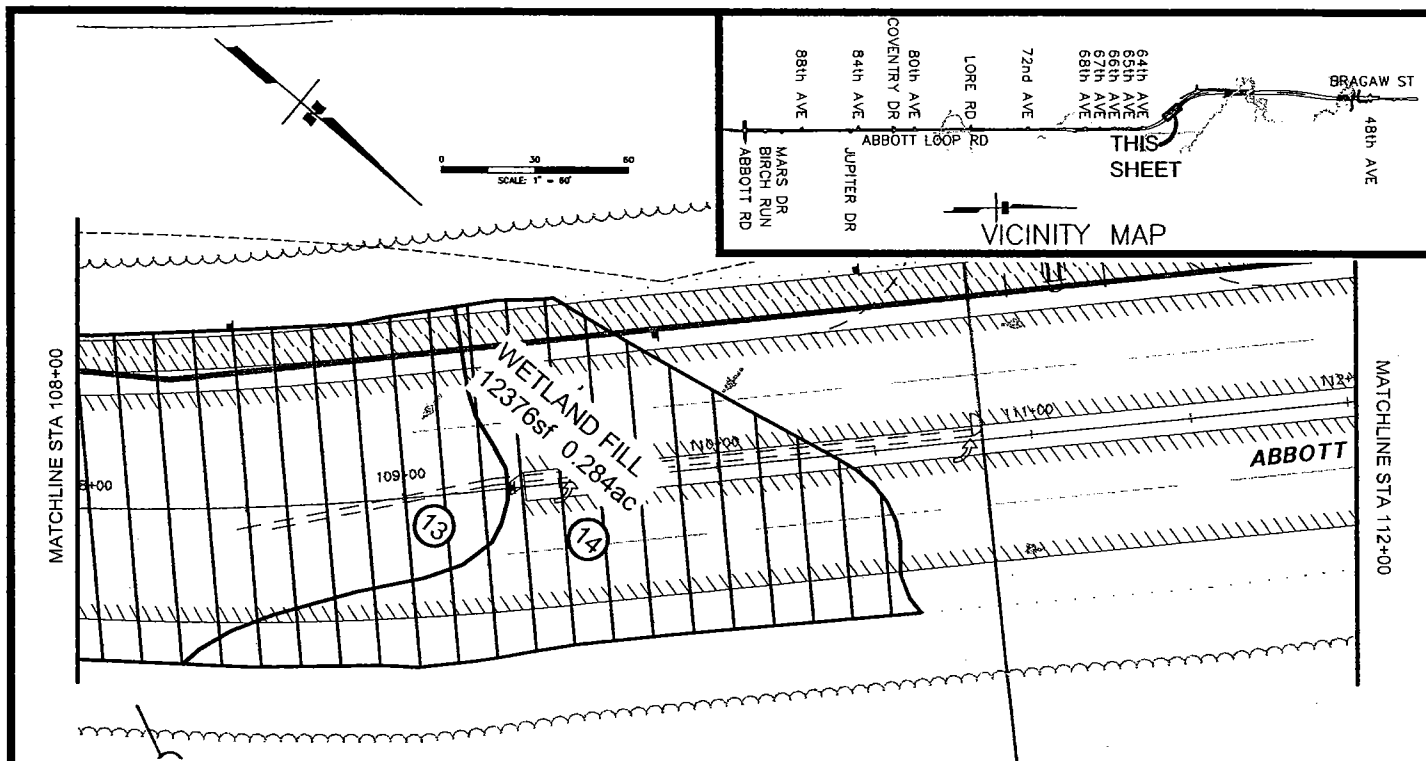
PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

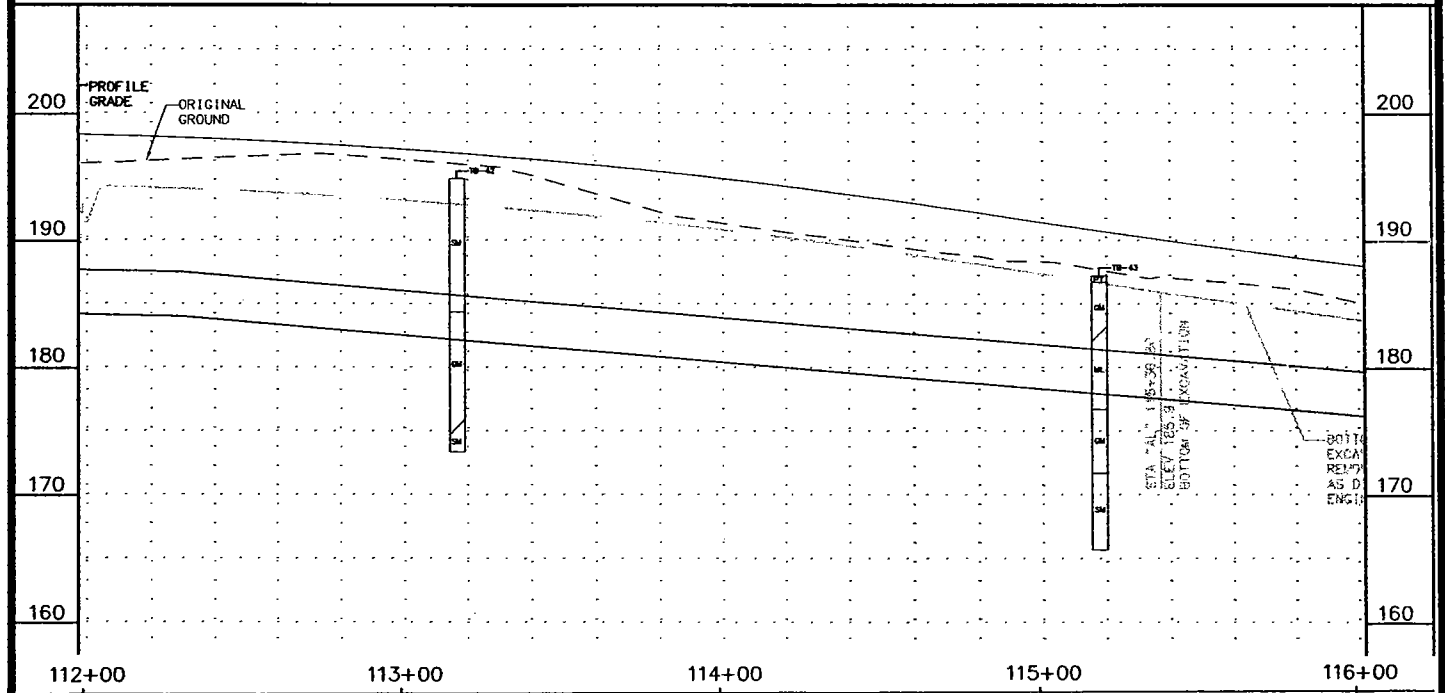
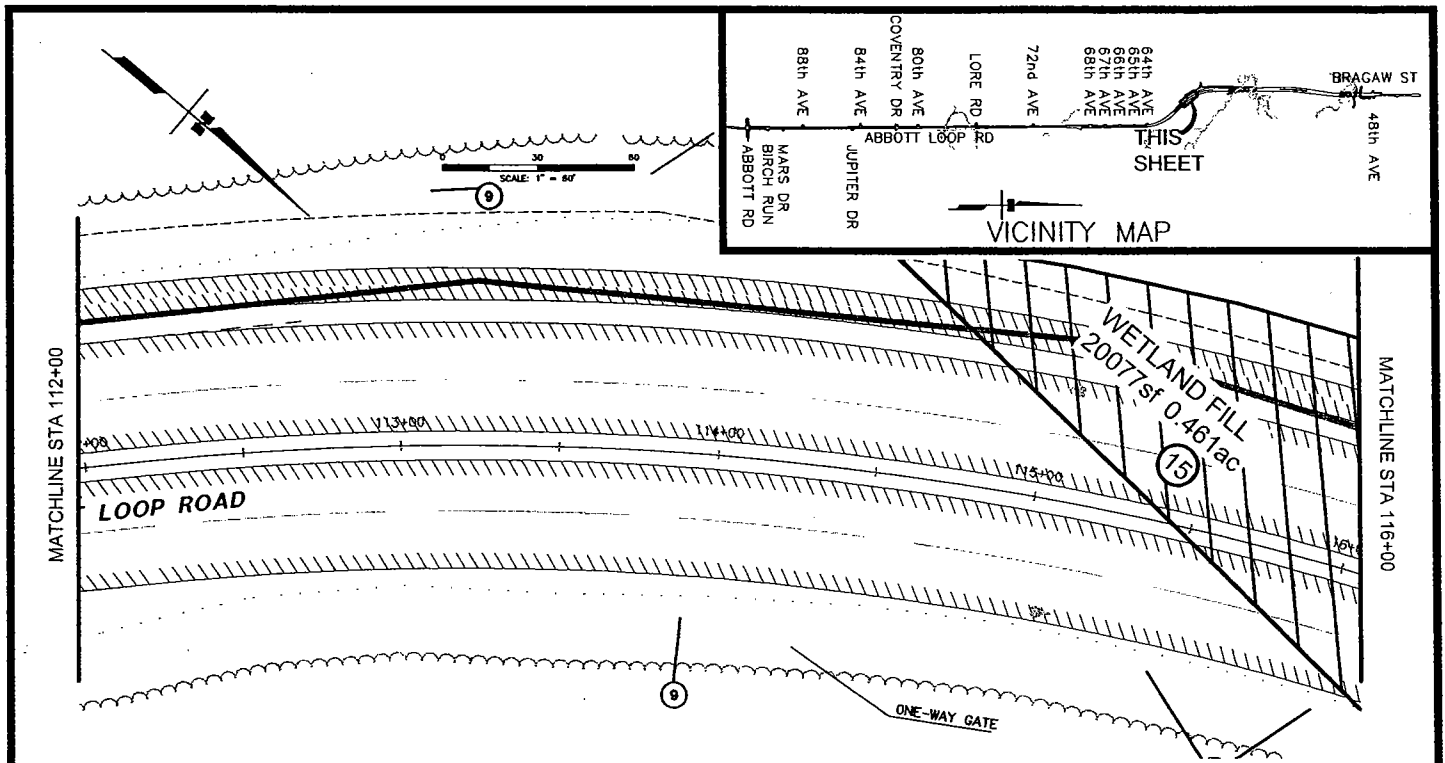
WATERBODY: Kasuun Tributary



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD EXTENSION
LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska
WATERBODY: Dowling Tributary



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska
 WATERBODY: Dowling Tributary



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

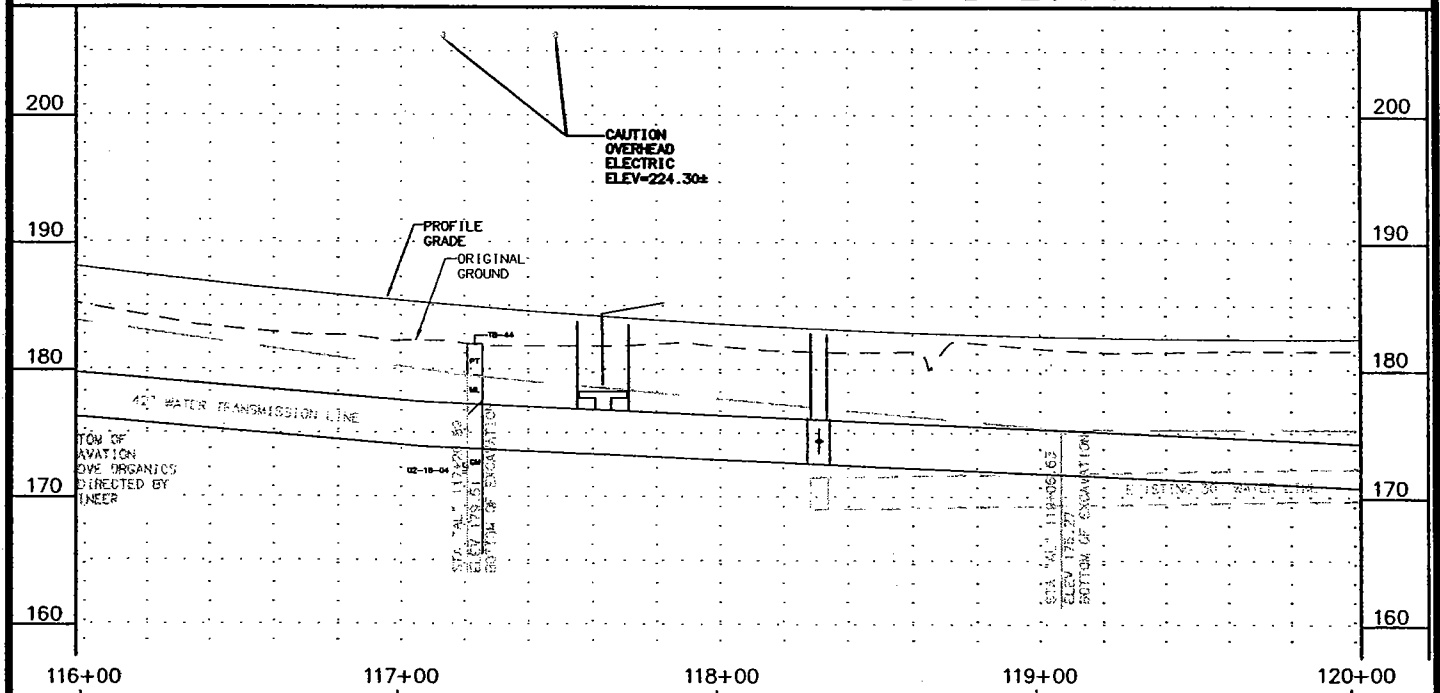
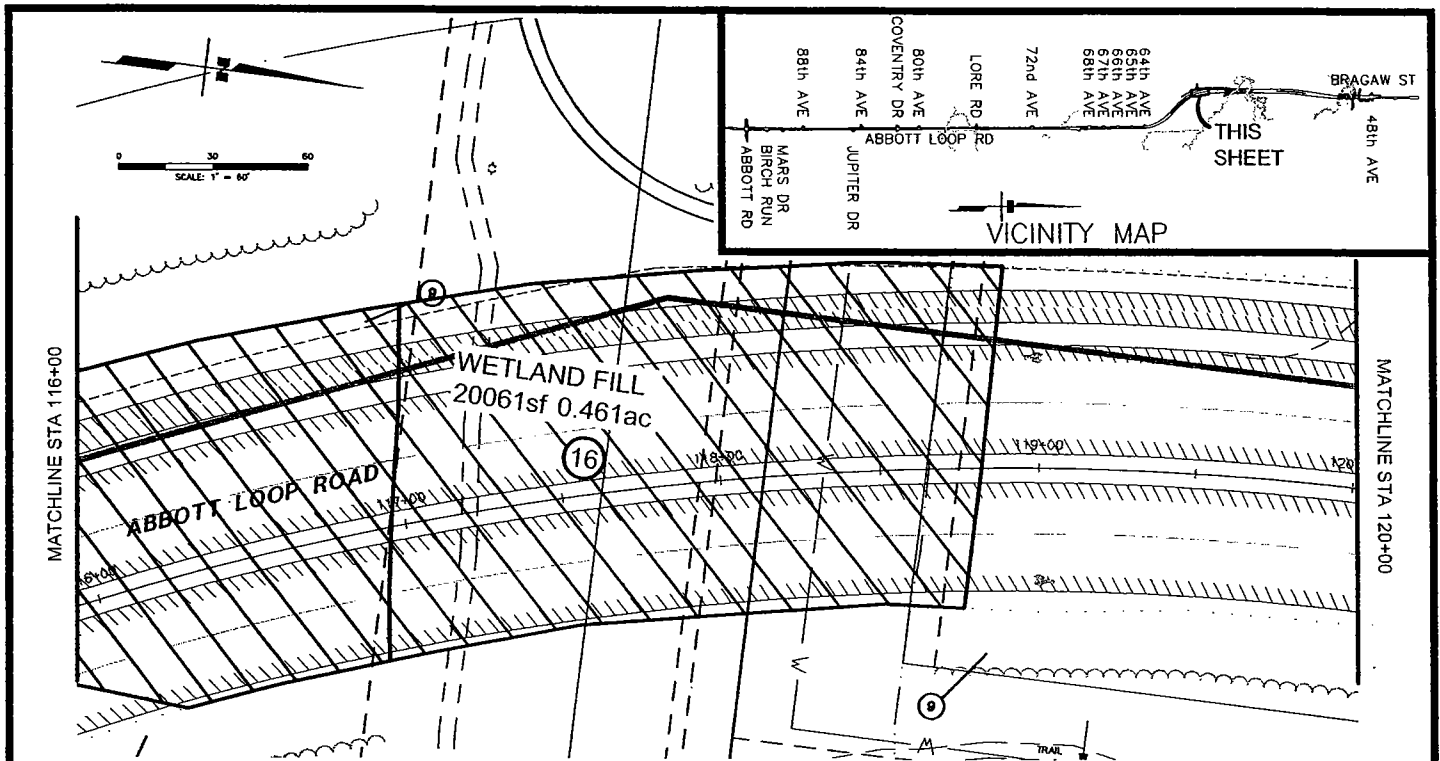
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

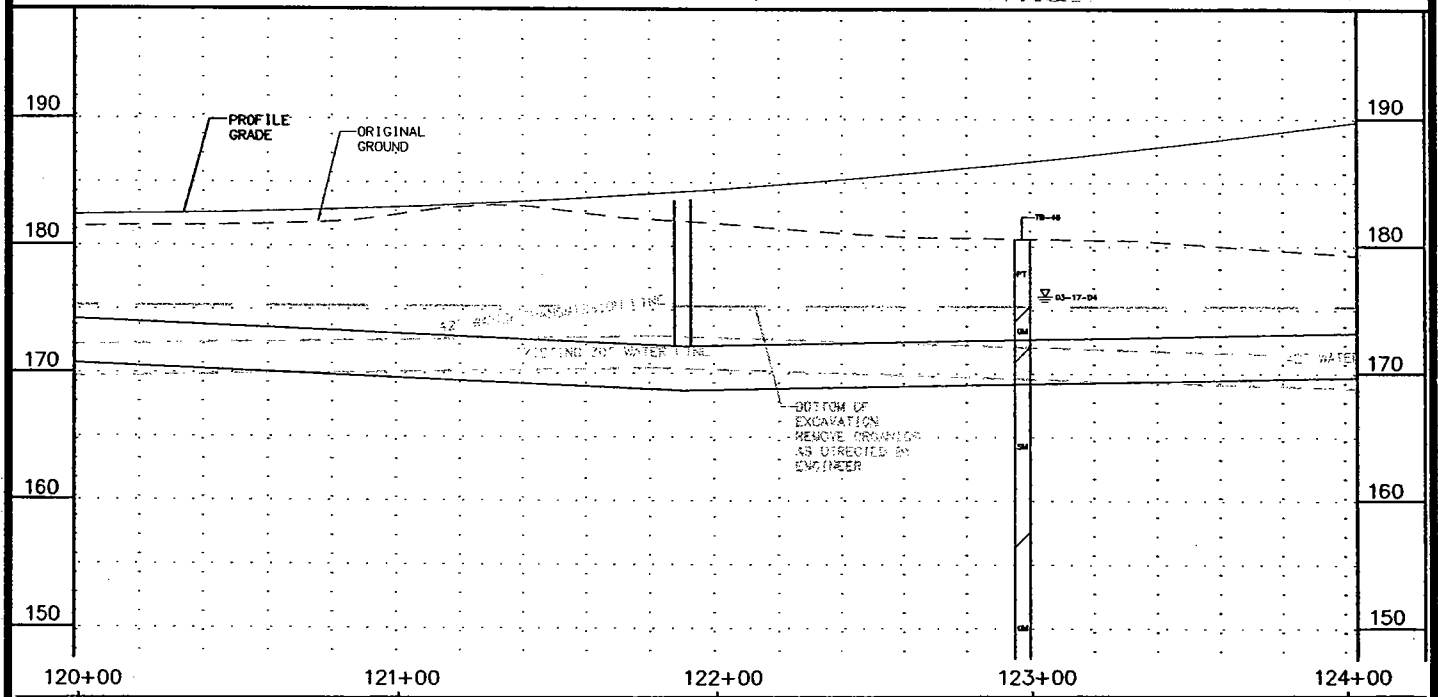
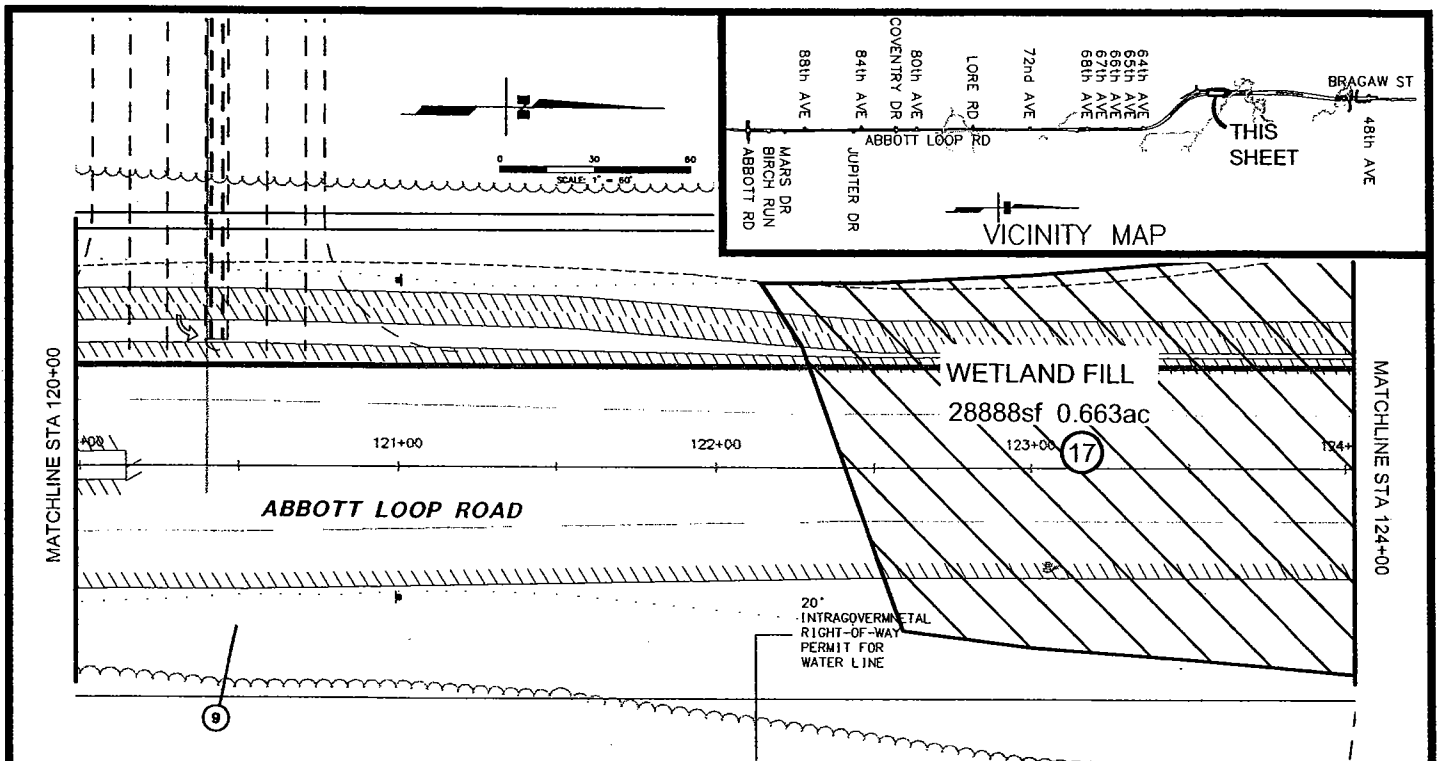
LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Dowling Tributary

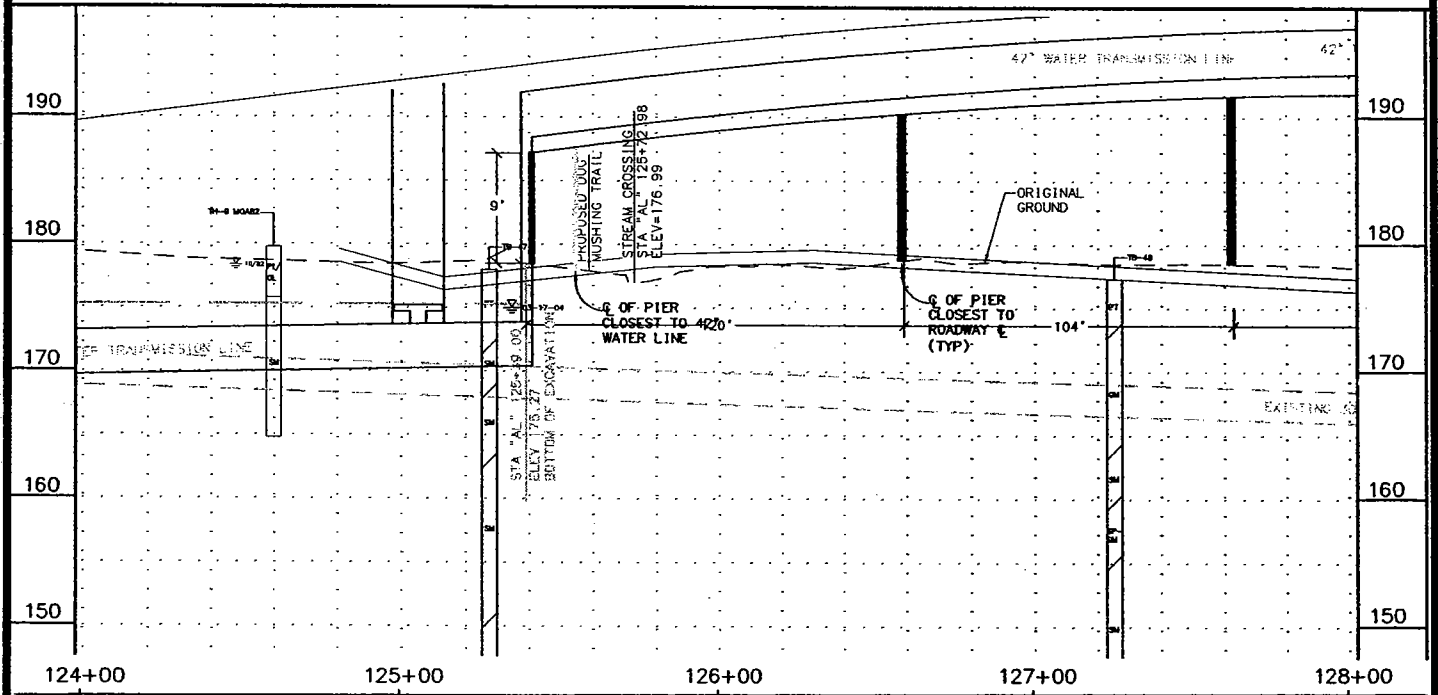
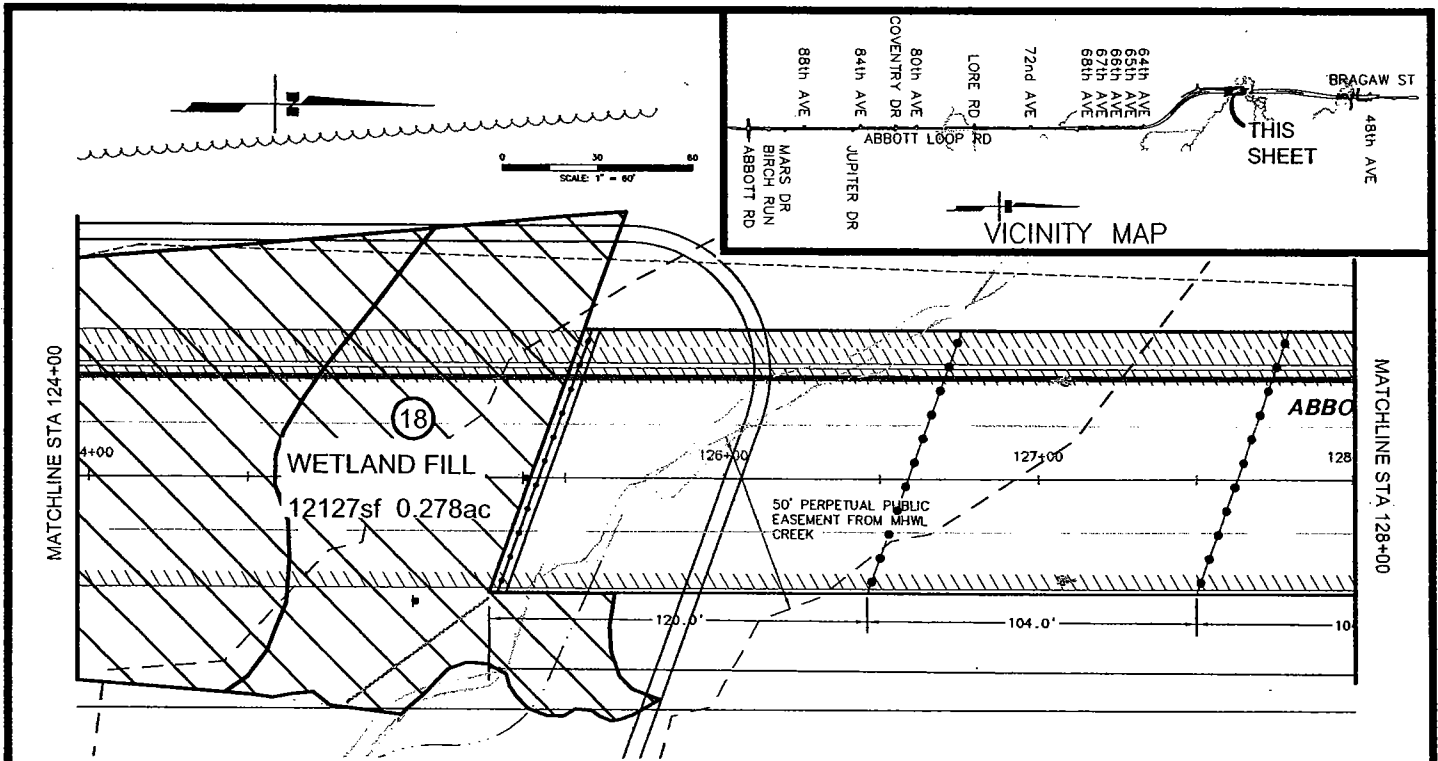
DATE: 1-31-2005 SHEET: 23 of 49



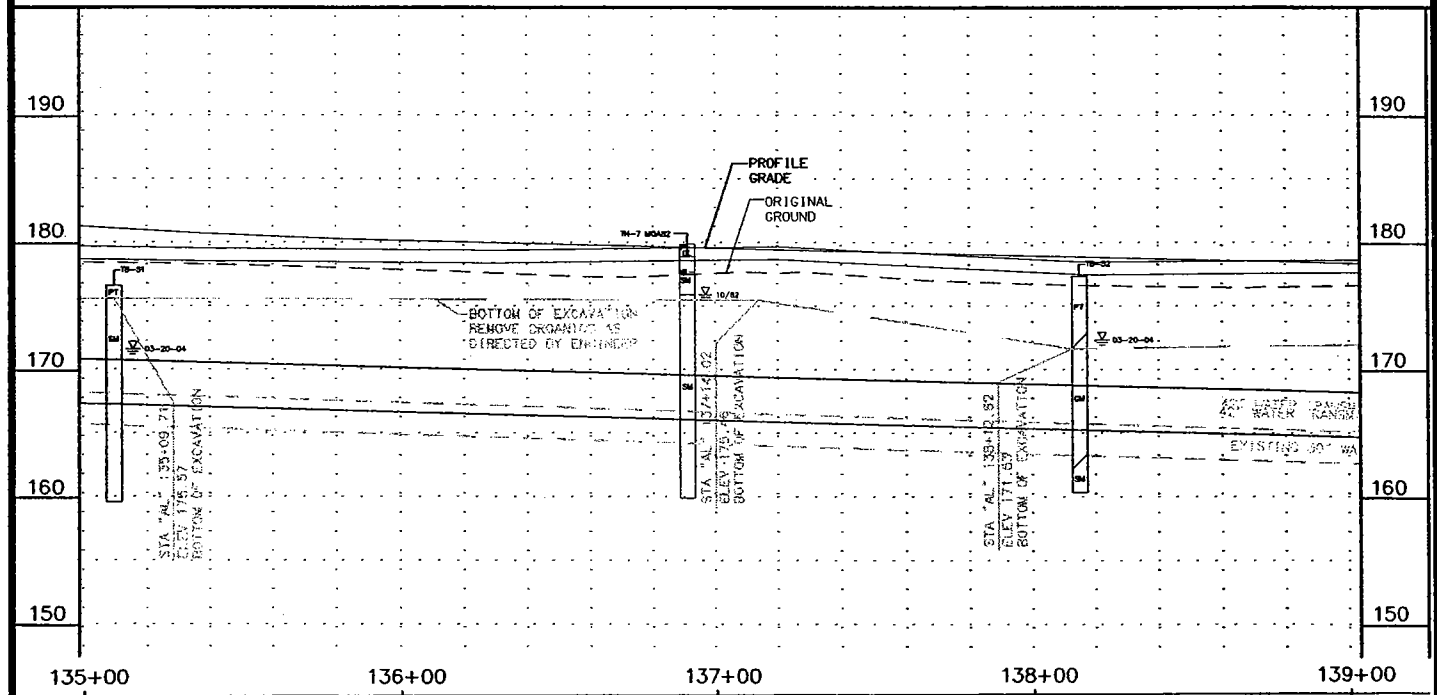
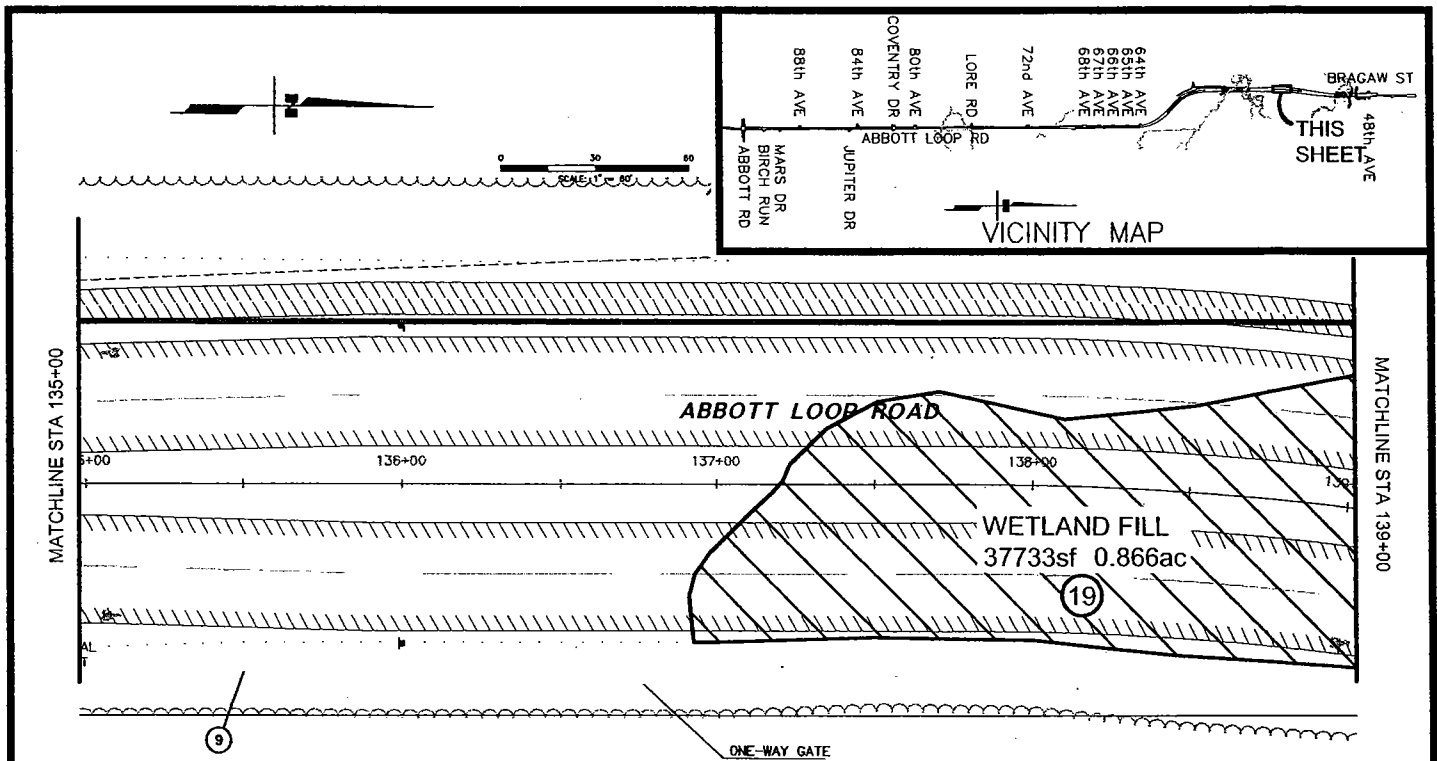
CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
 WATERBODY: South Fork Campbell Creek
 DATE: 1-31-2005 SHEET: 24 of 49



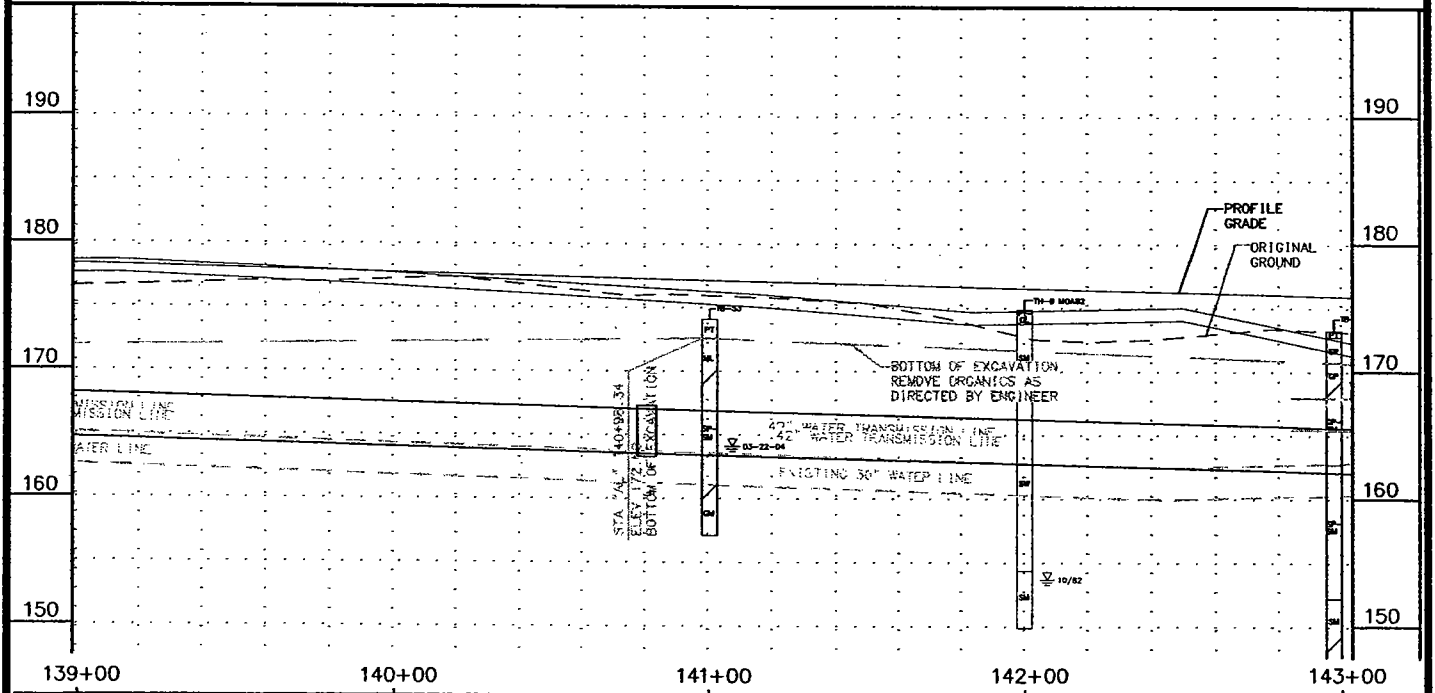
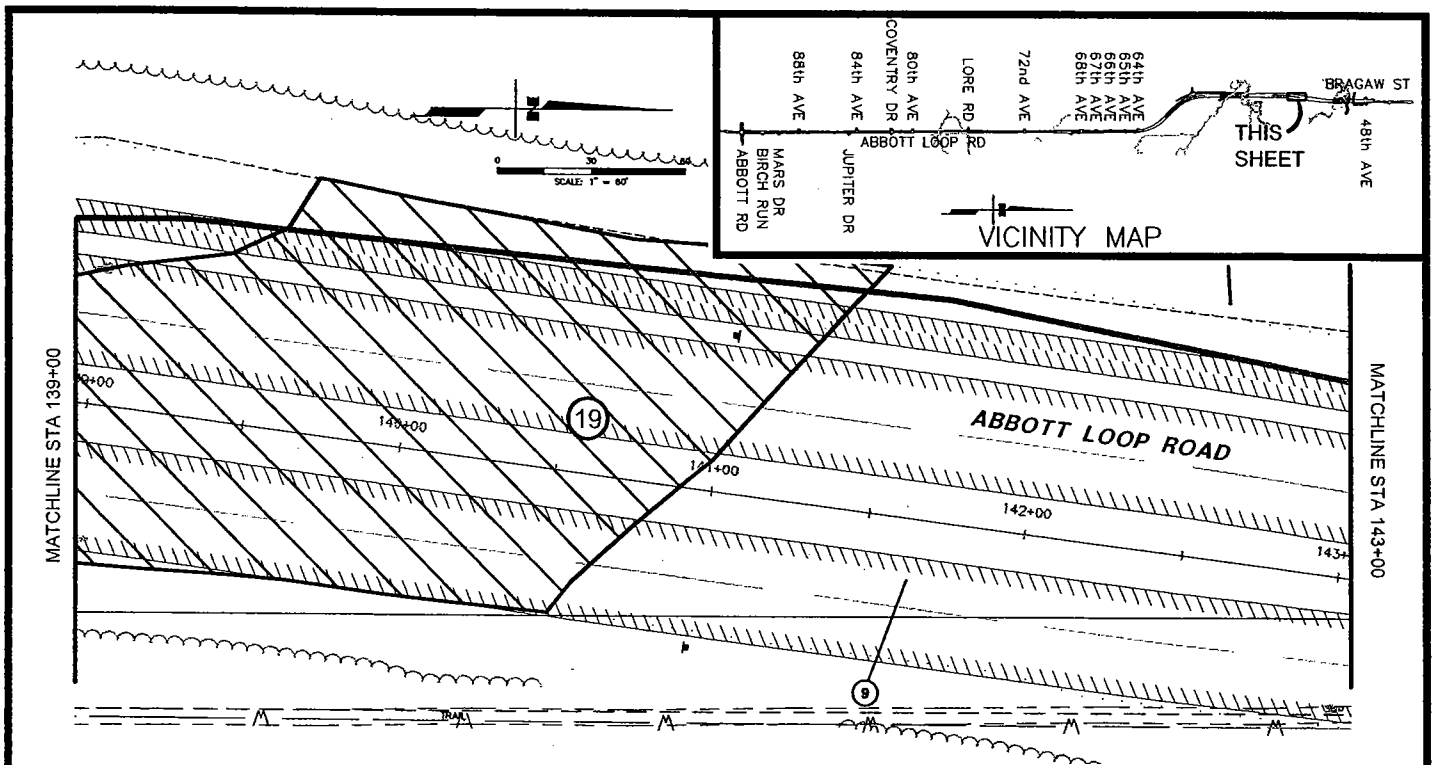
CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
 WATERBODY: South Fork Campbell Creek
 DATE: 1-31-2005 SHEET: 25 of 49



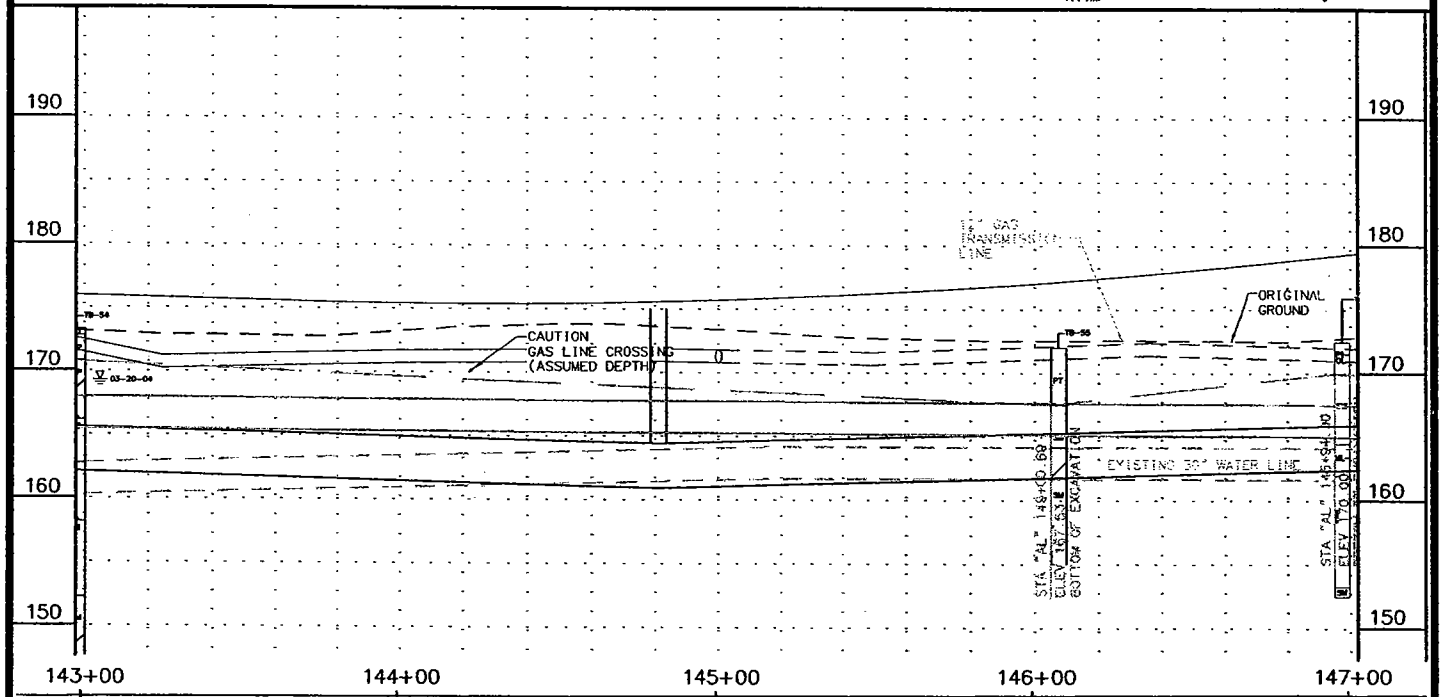
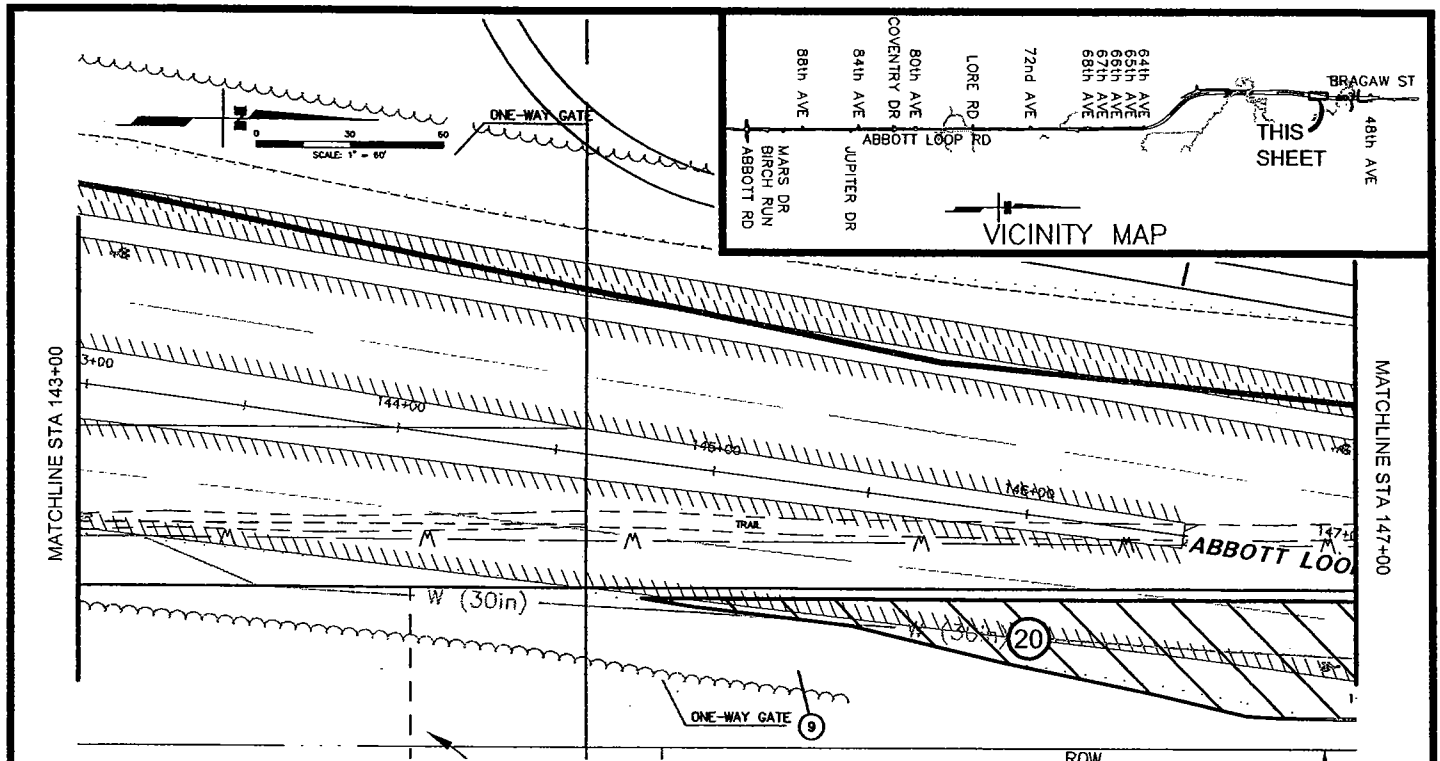
CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
 WATERBODY: South Fork Campbell Creek



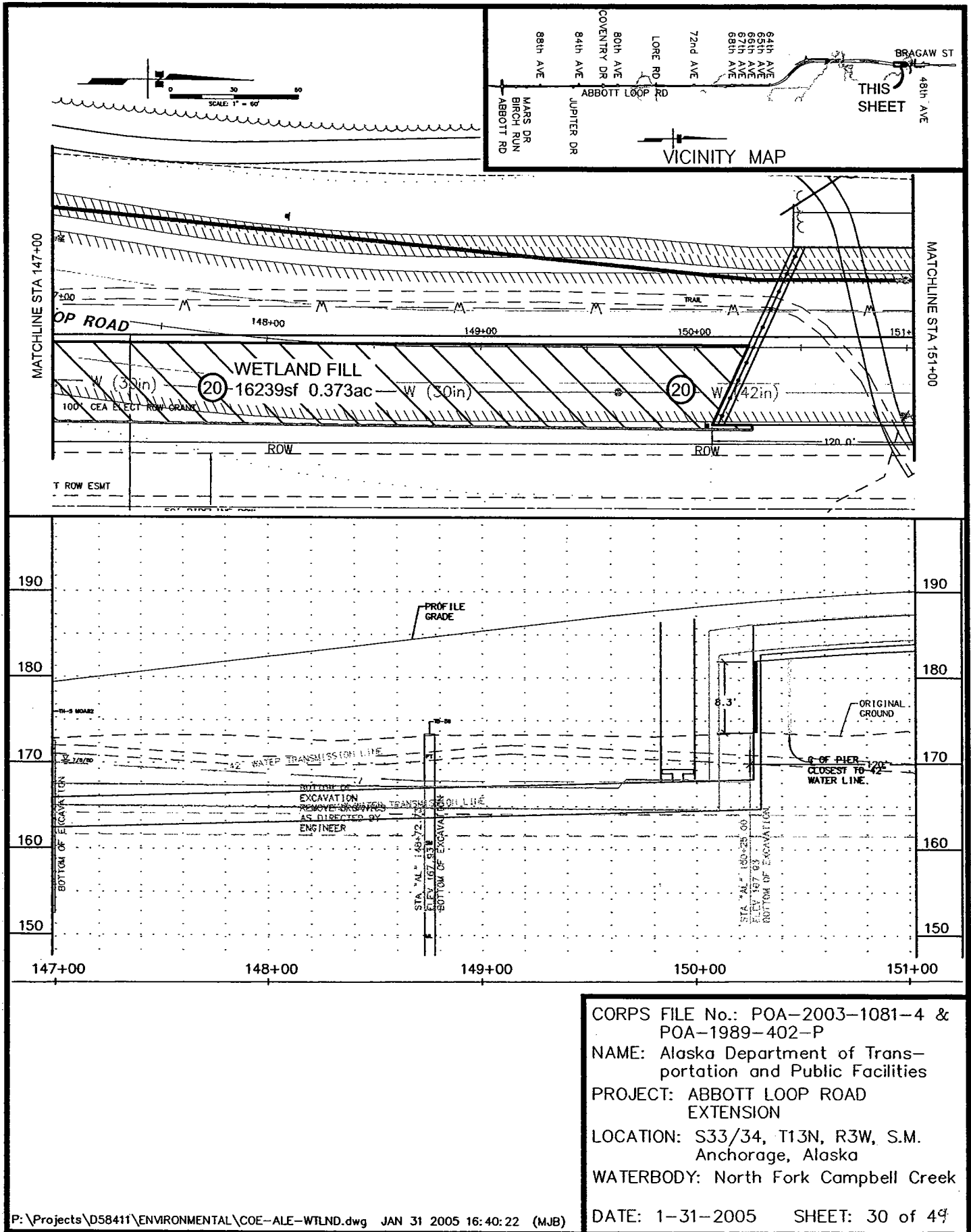
CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD EXTENSION
LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
WATERBODY: South Fork Campbell Creek

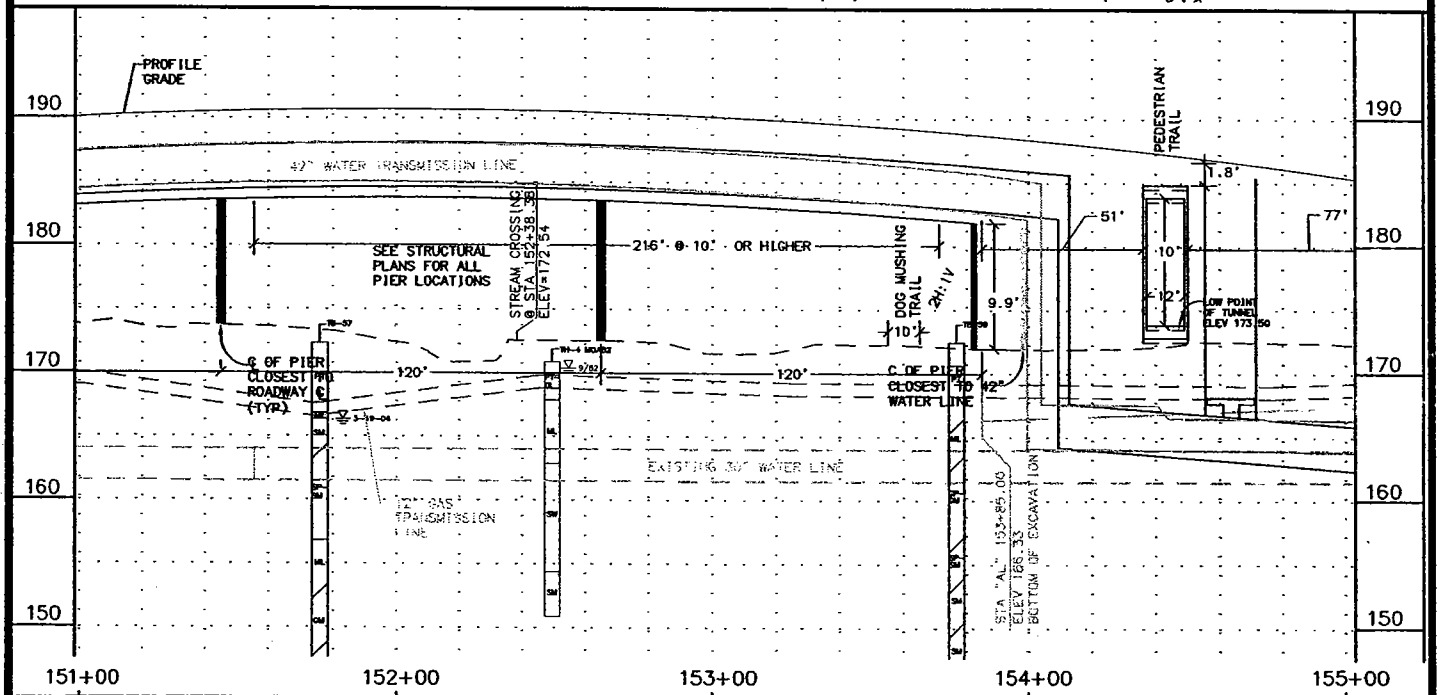
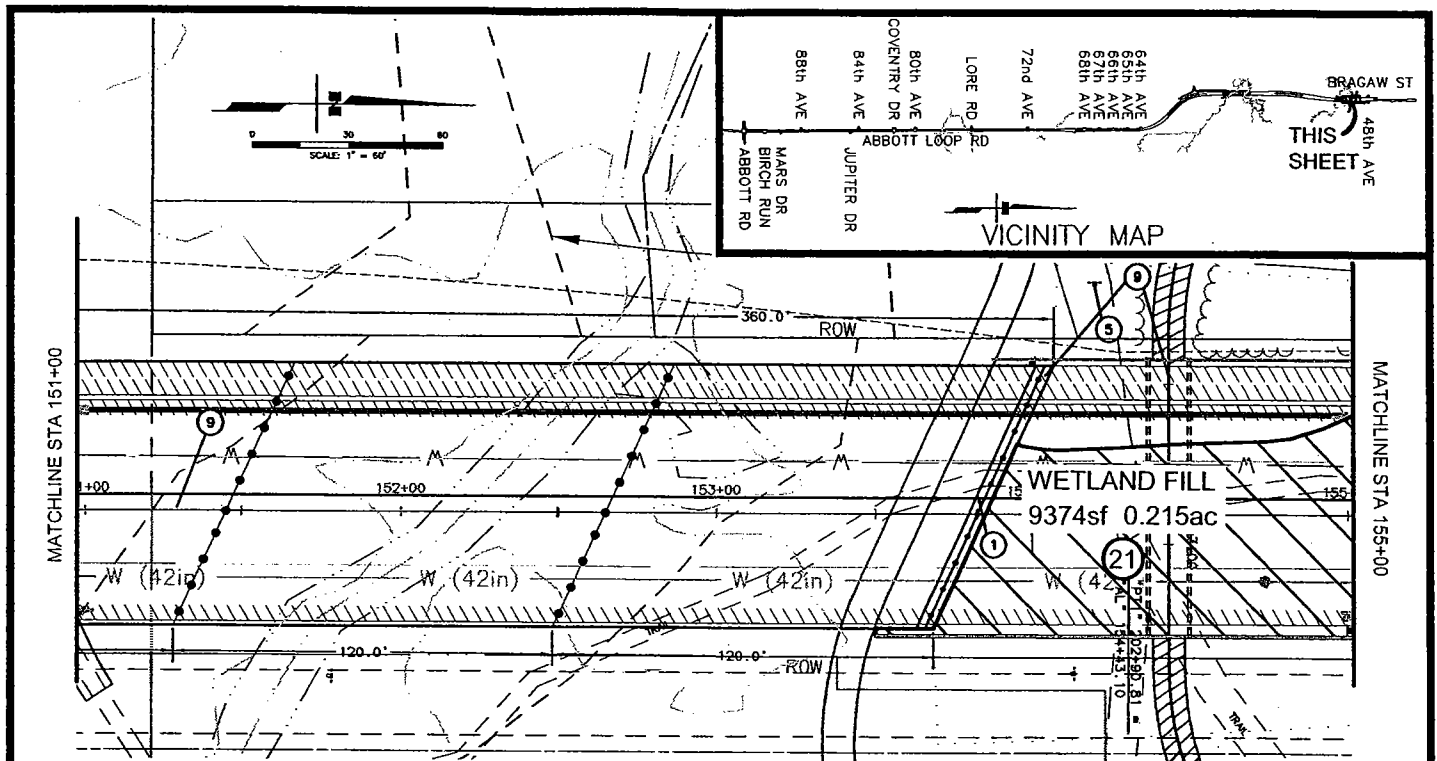


CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD
EXTENSION
LOCATION: S33/34, T13N, R3W, S.M.
Anchorage, Alaska
WATERBODY: South Fork Campbell Creek

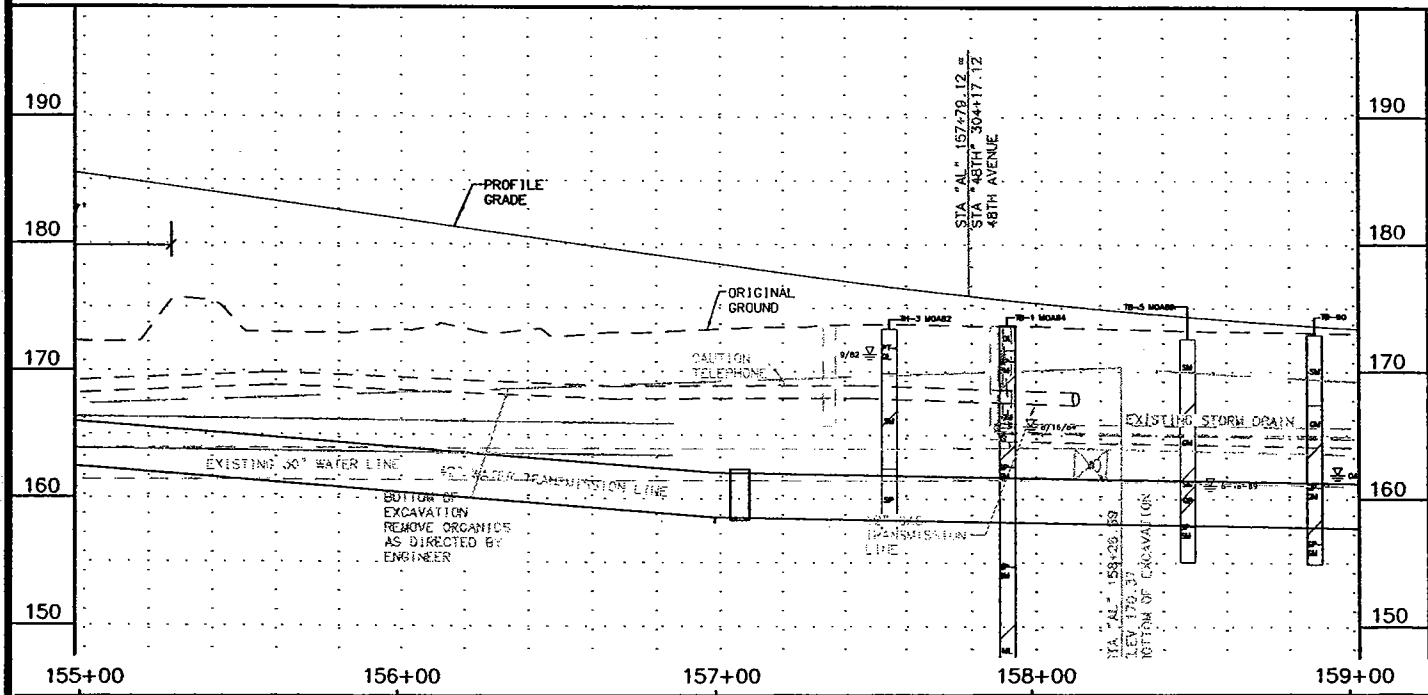
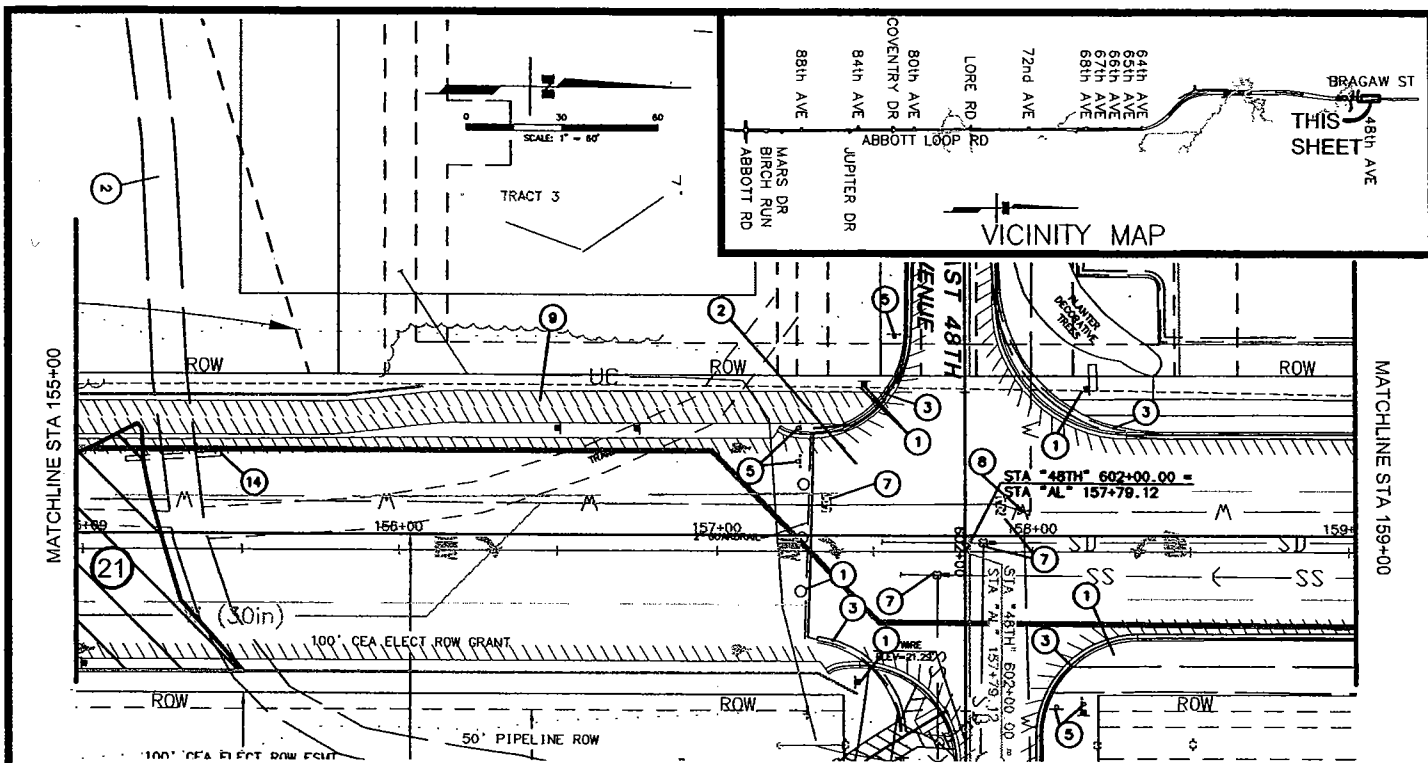


CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD
EXTENSION
LOCATION: S33/34, T13N, R3W, S.M.
Anchorage, Alaska
WATERBODY: North Fork Campbell Creek





CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
 WATERBODY: North Fork Campbell Creek



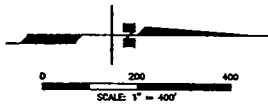
CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD
EXTENSION

LOCATION: S33/34, T13N, R3W, S.M.
Anchorage, Alaska

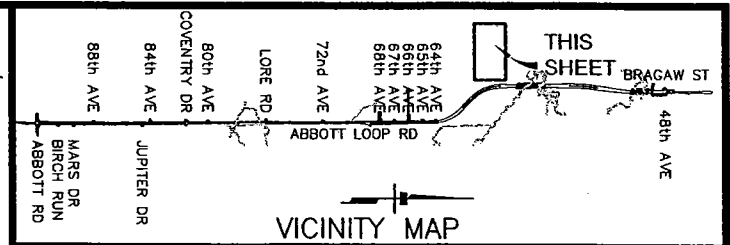
WATERBODY: North Fork Campbell Creek



WETLANDS FILL
(16,879 SF)



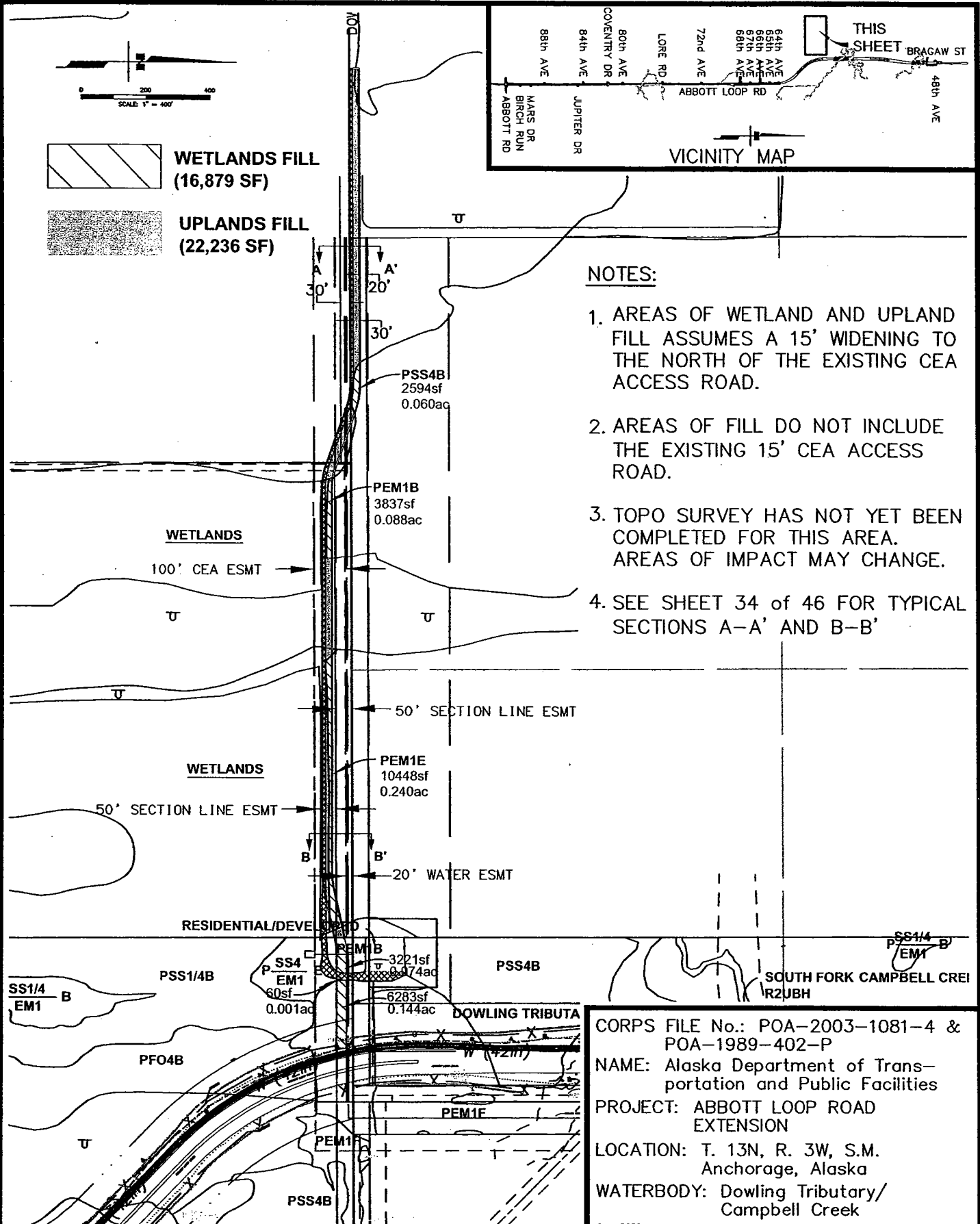
UPLANDS FILL
(22,236 SF)



VICINITY MAP

NOTES:

1. AREAS OF WETLAND AND UPLAND FILL ASSUMES A 15' WIDENING TO THE NORTH OF THE EXISTING CEA ACCESS ROAD.
2. AREAS OF FILL DO NOT INCLUDE THE EXISTING 15' CEA ACCESS ROAD.
3. TOPO SURVEY HAS NOT YET BEEN COMPLETED FOR THIS AREA. AREAS OF IMPACT MAY CHANGE.
4. SEE SHEET 34 of 46 FOR TYPICAL SECTIONS A-A' AND B-B'



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

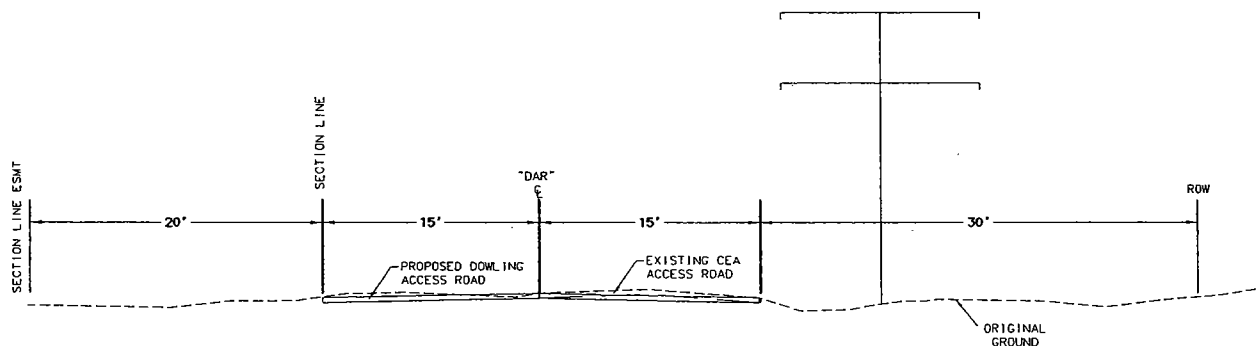
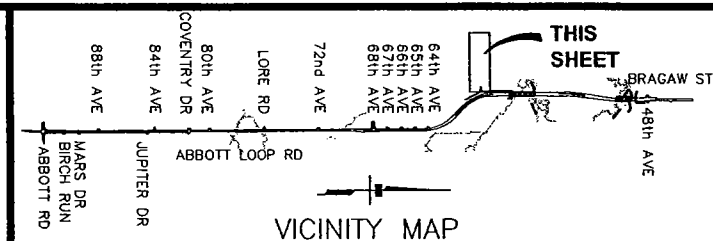
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PROJECT: ABBOTT LOOP ROAD EXTENSION

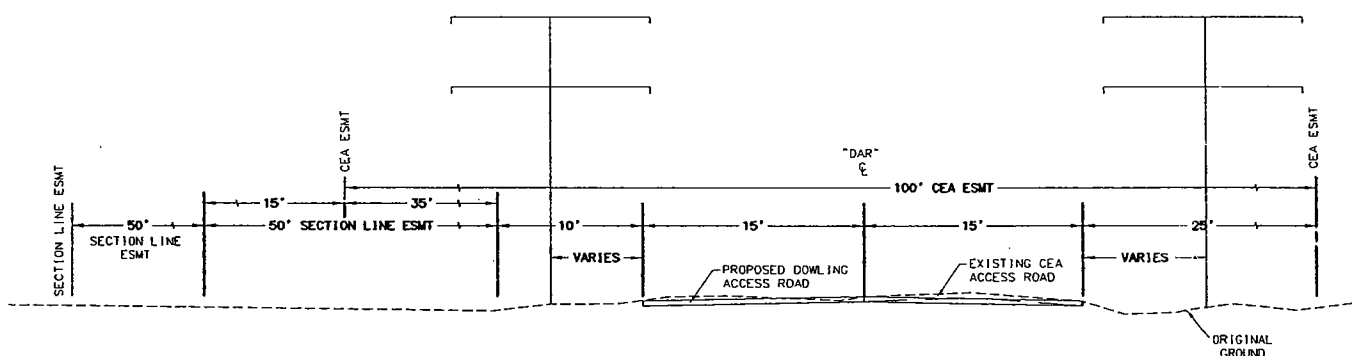
LOCATION: T. 13N, R. 3W, S.M. Anchorage, Alaska

WATERBODY: Dowling Tributary/Campbell Creek

DATE: 1-31-2005 SHEET: 33 of 49



A
DOWLING ACCESS ROAD-"DAR"
WIDEN EXISTING CEA ACCESS ROAD
WITHIN ROW FROM DOWLING ROAD
THROUGH RESIDENTIAL AREA
LOOKING EAST



B
DOWLING ACCESS ROAD-"DAR"
WIDEN EXISTING CEA ACCESS ROAD
WITHIN CEA ESMT
LOOKING EAST

CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

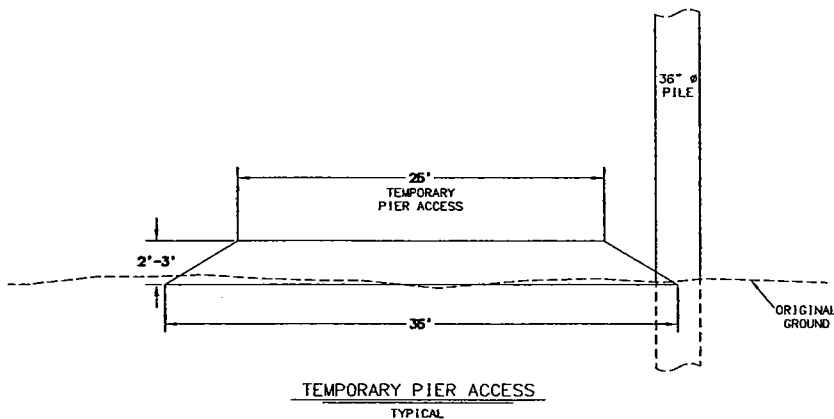
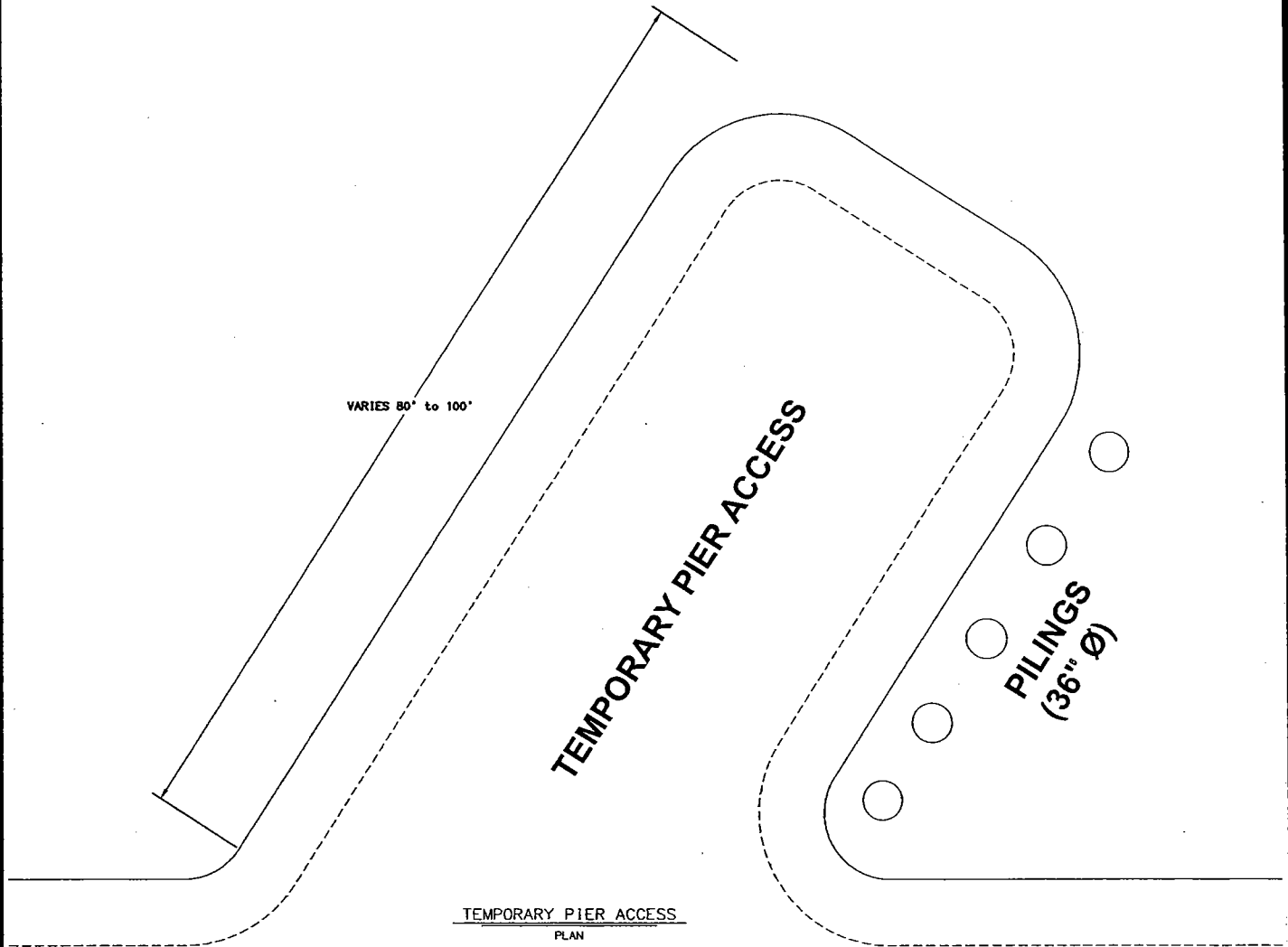
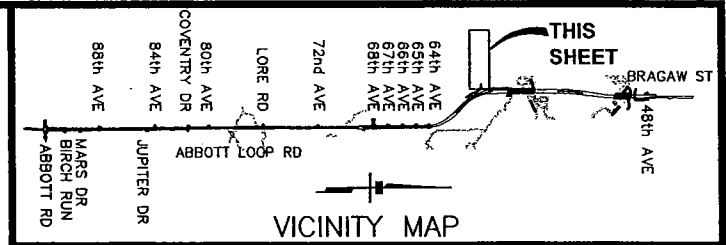
NAME: Alaska Department of Trans-
portation and Public Facilities

PROJECT: ABBOTT LOOP ROAD
EXTENSION

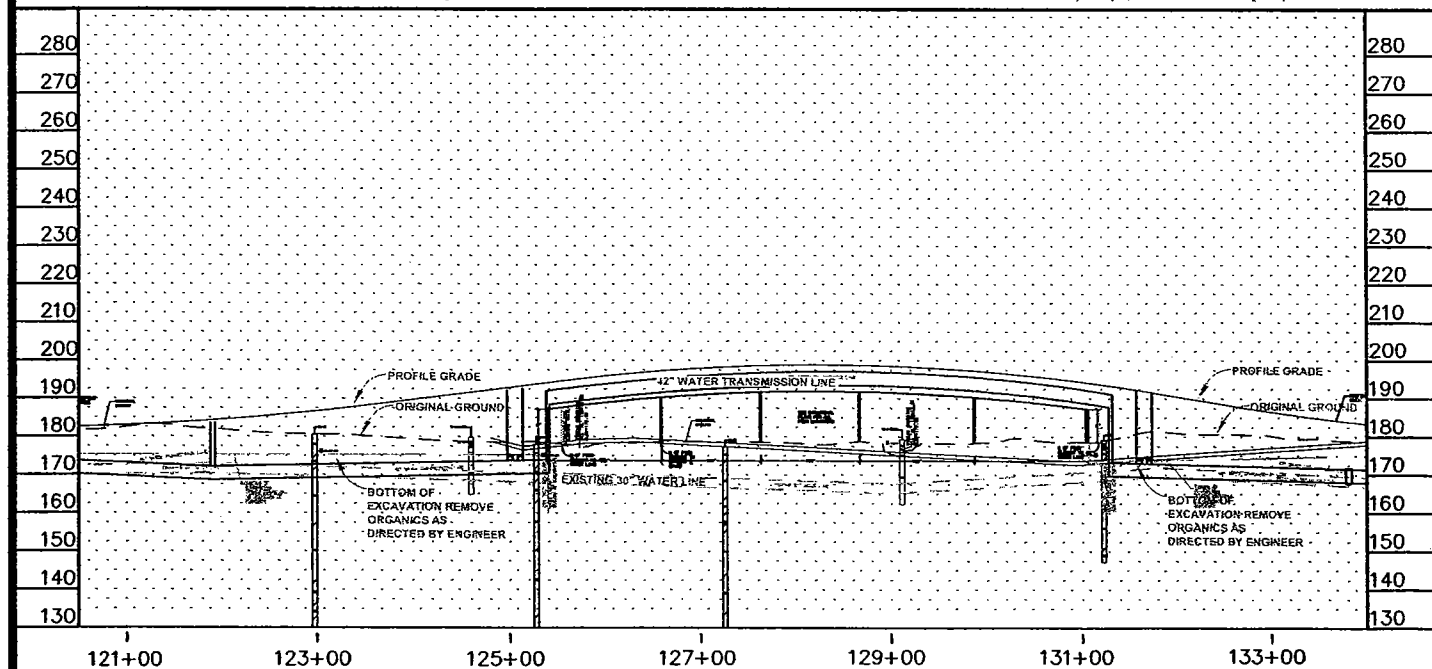
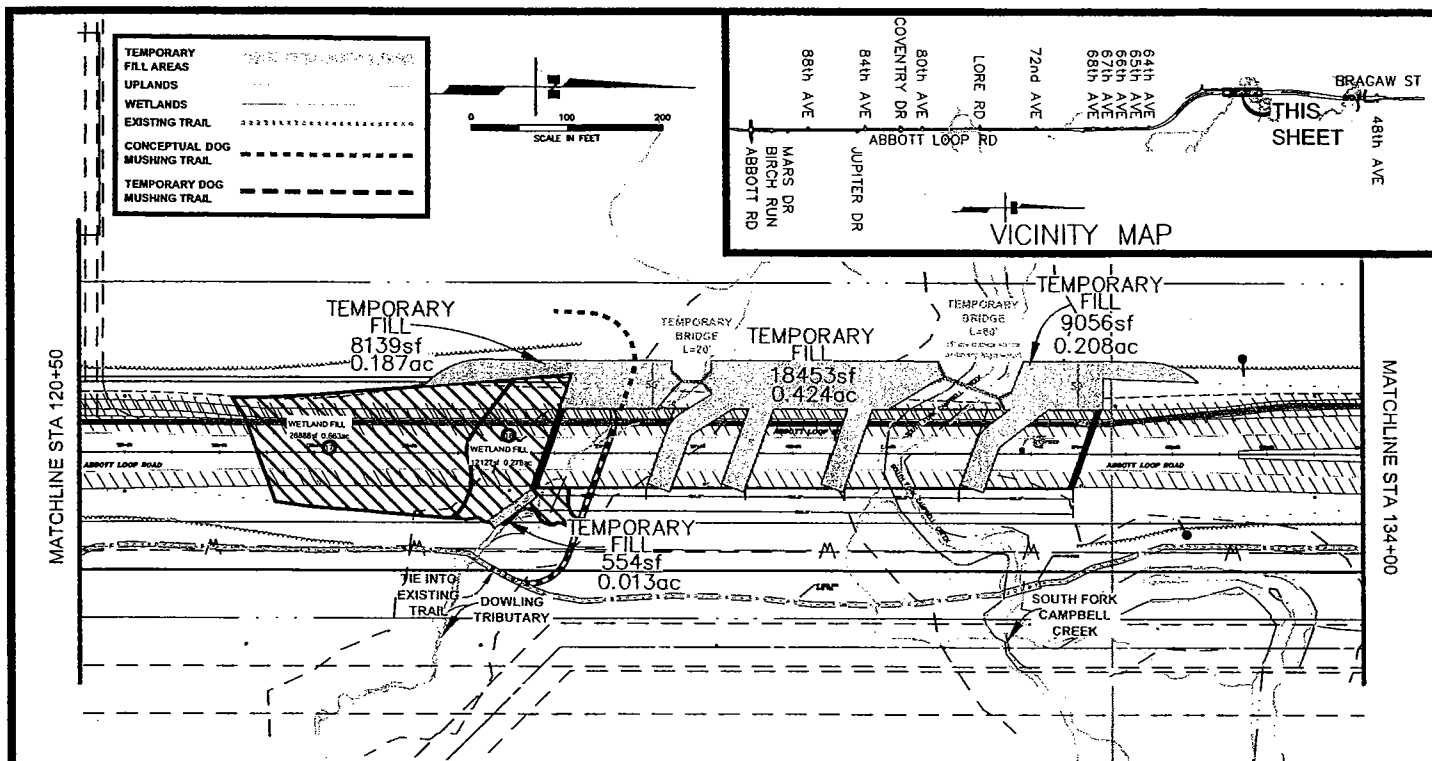
LOCATION: T. 13N, R. 3W, S.M.
Anchorage, Alaska

WATERBODY: Dowling Tributary/
Campbell Creek

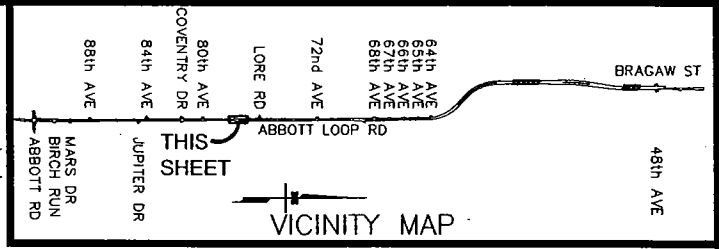
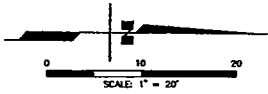
DATE: 1-31-2005 SHEET: 34 of 49



CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD EXTENSION
LOCATION: T. 13N, R. 3W, S.M.
Anchorage, Alaska
WATERBODY: Dowling Tributary/
Campbell Creek
DATE: 1-31-2005 SHEET: 35 of 49



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
 WATERBODY: South Fork Campbell Creek



BLM LOT 32
OUTLET INVERT
205.92'

North Fork Little Campbell Creek

NOTE:

1. FOR DIVERSION CHANNEL DETAIL, SEE 1
44
2. DO NOT PLACE EXCESS/UNSUITABLE MATERIAL EXCAVATED DURING CONSTRUCTION, ADJACENT TO OR IN THE STREAM CHANNEL

EXISTING CULVERT

56+00

ABBOTT LOOP ROAD

60" CSP CULVERT
LENGTH = 73.22'

INLET INVERT
206.67'


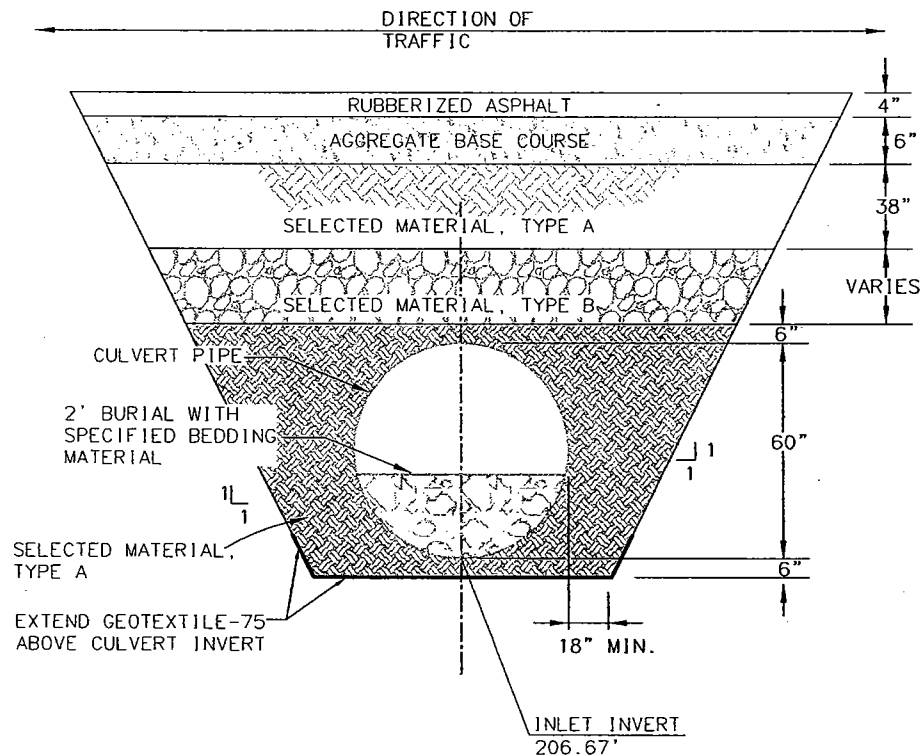
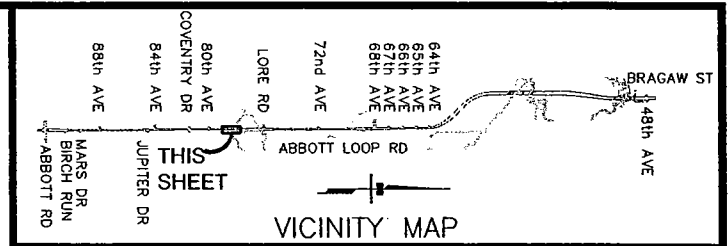
SEE DETAIL 1
39

DIRECTION OF FLOW
(TYP)

North Fork Little Campbell Creek

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD EXTENSION
LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska
WATERBODY: North Fork Little Campbell Creek
DATE: 1-31-2005 SHEET: 38 of 49

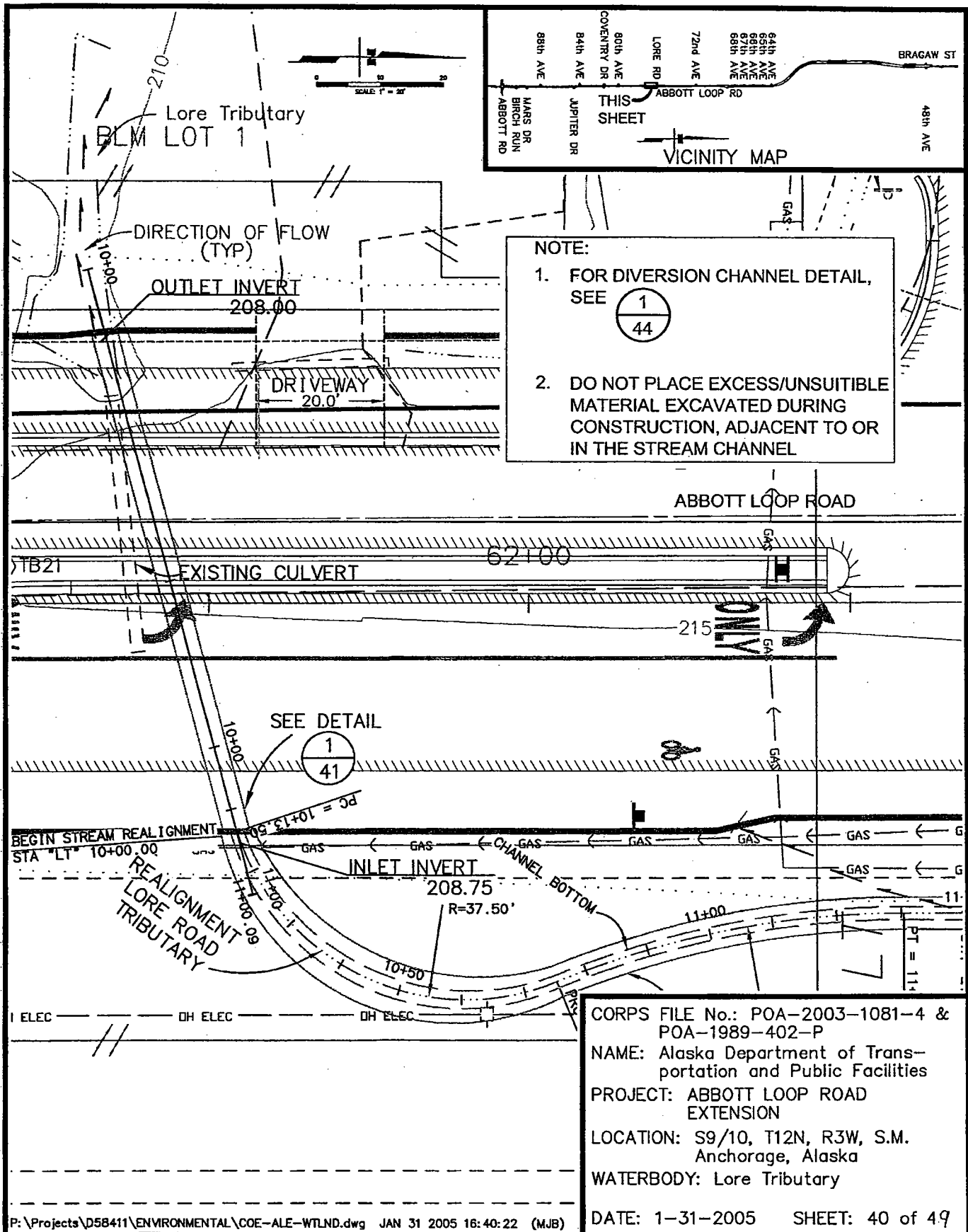
1. CONSTRUCT CULVERT AT THE NATURAL
STREAM BED SLOPE OF 1.02%
2. BEDDING MATERIAL SHALL SIMULATE
EXISTING STREAM BEDDING
CONDITIONS OR AS DIRECTED BY THE
ENGINEER, AT A BURIAL DEPTH OF
2.0'



NORTH FORK LITTLE CAMPBELL CREEK CULVERT DETAIL

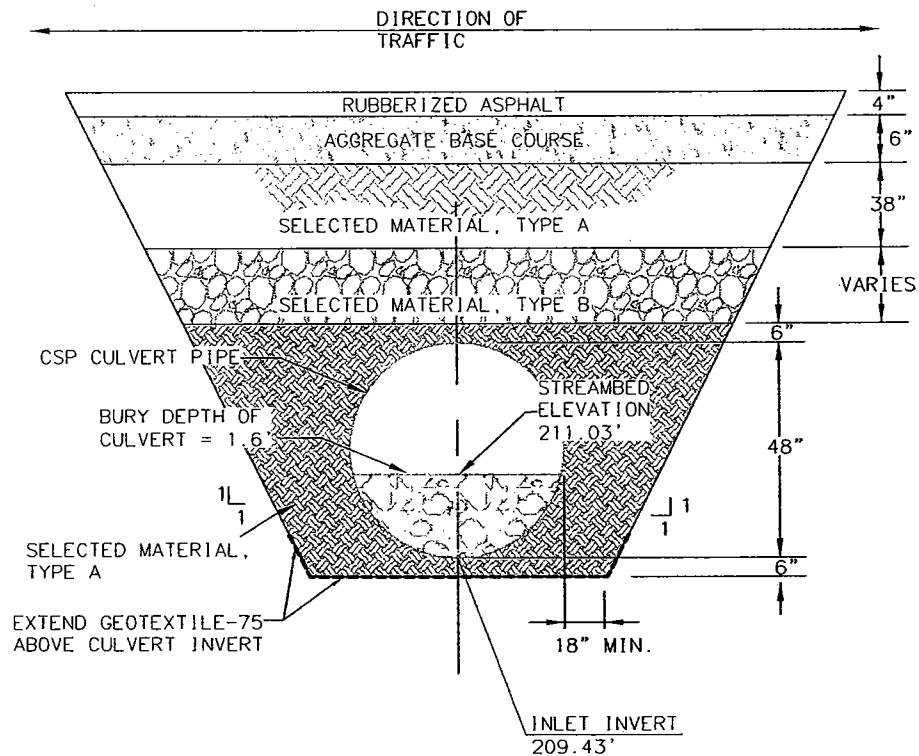
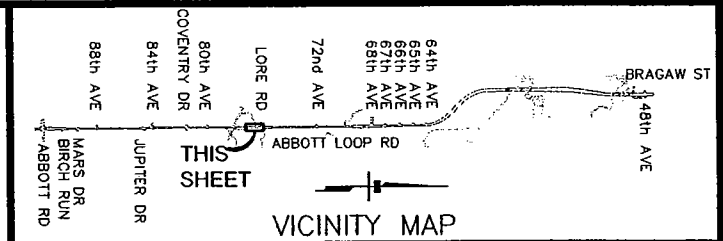
NTS

DATE: 1-31-2005 SHEET: 39 of 49



NOTE:

1. CONSTRUCT CULVERT AT A 1.79% SLOPE
2. BEDDING MATERIAL SHALL SIMULATE EXISTING STREAM BEDDING CONDITIONS OR AS DIRECTED BY THE ENGINEER, AT A BURIAL DEPTH OF 1.6'



1
41

LORE TRIBUTARY CULVERT DETAIL

NTS

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

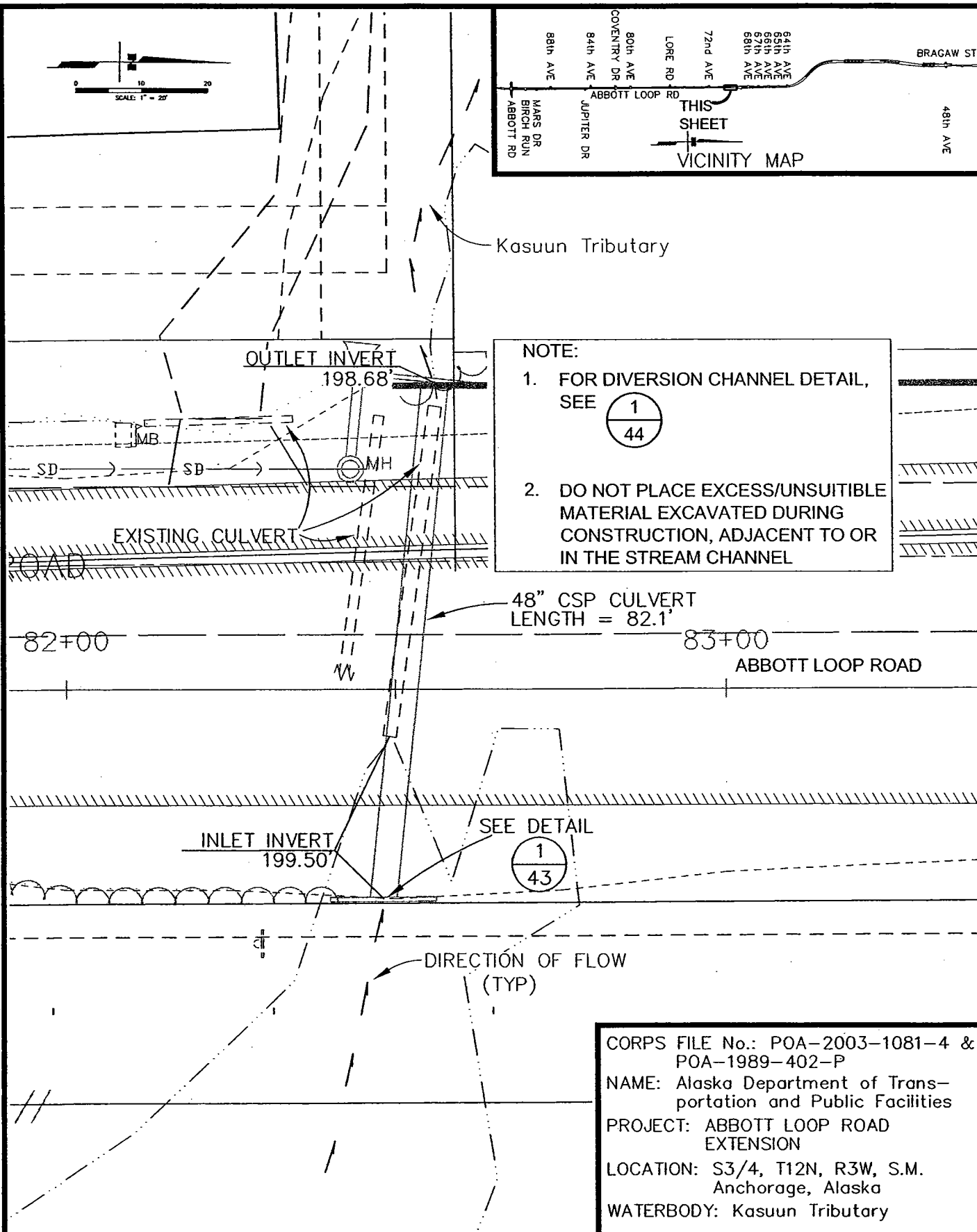
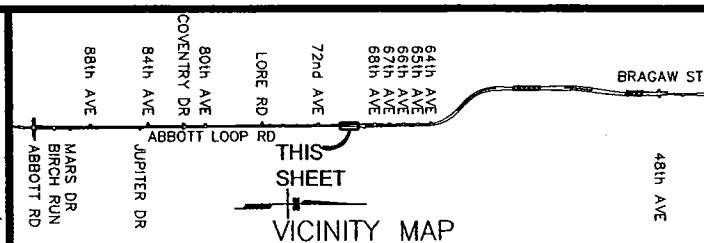
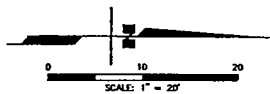
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Lore Tributary

DATE: 1-31-2005 SHEET: 41 of 49

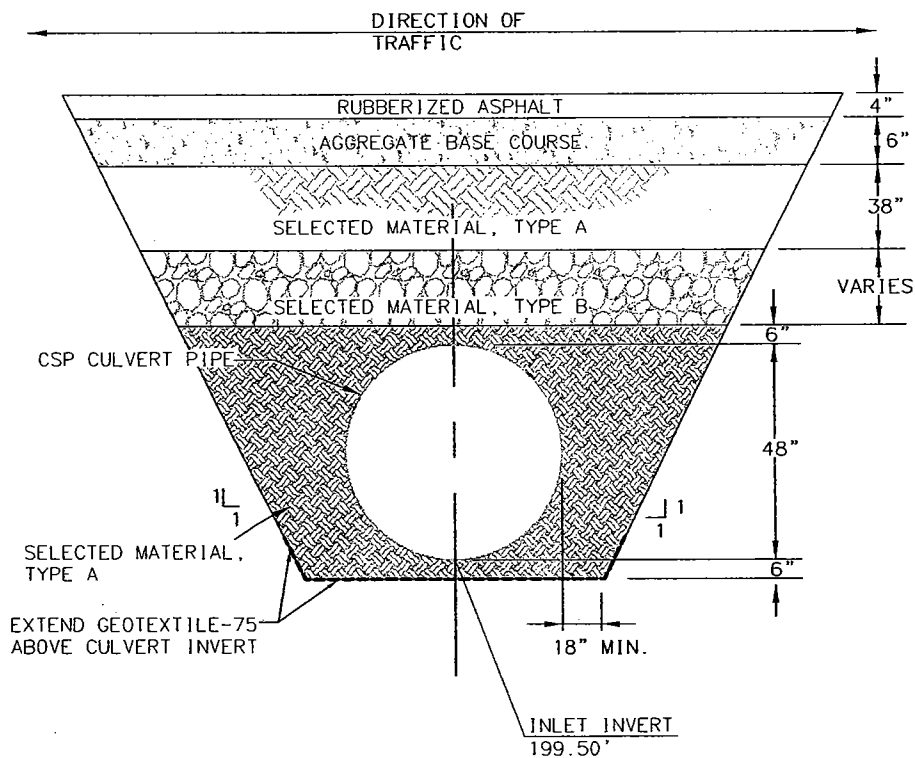
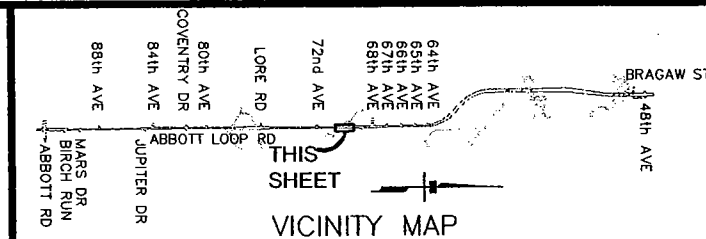


- NOTE:
1. FOR DIVERSION CHANNEL DETAIL, SEE 1
44
 2. DO NOT PLACE EXCESS/UNSUITABLE MATERIAL EXCAVATED DURING CONSTRUCTION, ADJACENT TO OR IN THE STREAM CHANNEL

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska
 WATERBODY: Kasuun Tributary
 DATE: 1-31-2005 SHEET: 42 of 49

NOTE:

1. EXISTING INVERTS WERE KEPT THE SAME TO KEEP UPSTREAM WETLANDS INTACT.



1
43

KASUUN TRIBUTARY CULVERT DETAIL

NTS

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

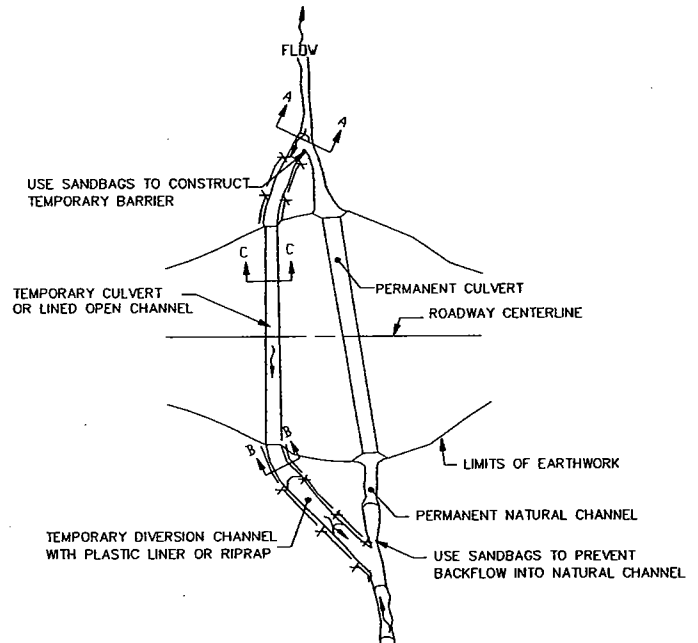
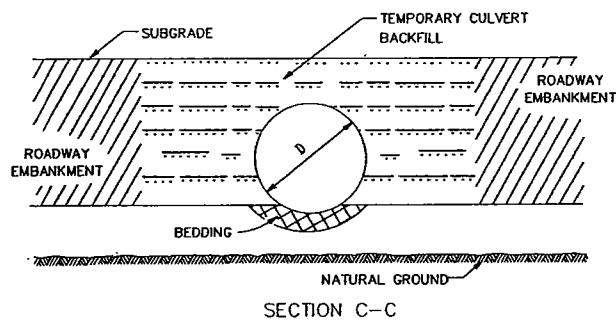
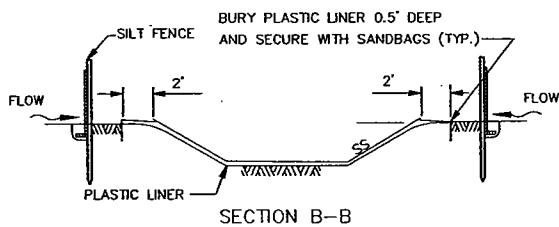
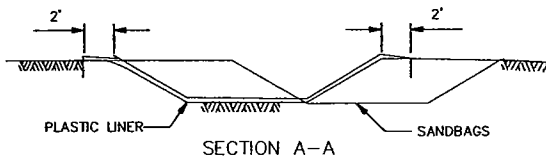
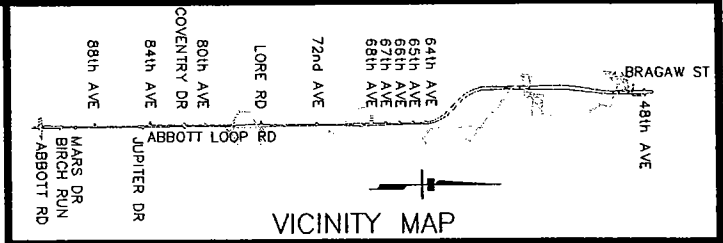
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

WATERBODY: Kasuun Tributary

DATE: 1-31-2005 SHEET: 43 of 49



1

44

PLAN TEMPORARY STREAM DIVERSION

NTS

CULVERT DIVERSION NOTE:

1. USE PLASTIC LINER ALONG THE ENTIRE LENGTH AND WIDTH OF THE TEMPORARY DIVERSION CHANNEL.
2. CONSTRUCT CHANNEL AT A MINIMUM GRADE OF 0.5 PERCENT.
3. DO NOT CONSTRUCT WITH LONGITUDINAL JOINTS IF USING A PLASTIC LINER. BURY THE UPSTREAM EDGE OF THE LINER A MINIMUM OF 0.5 FT DEEP AND SECURE WITH RIPRAP OR SANDBAGS.

NOTE:

THIS IS A SCHEMATIC DRAWING. COORDINATE LOCATION OF DIVERSION CULVERT OR CHANNEL WITH PROJECT ENGINEER

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

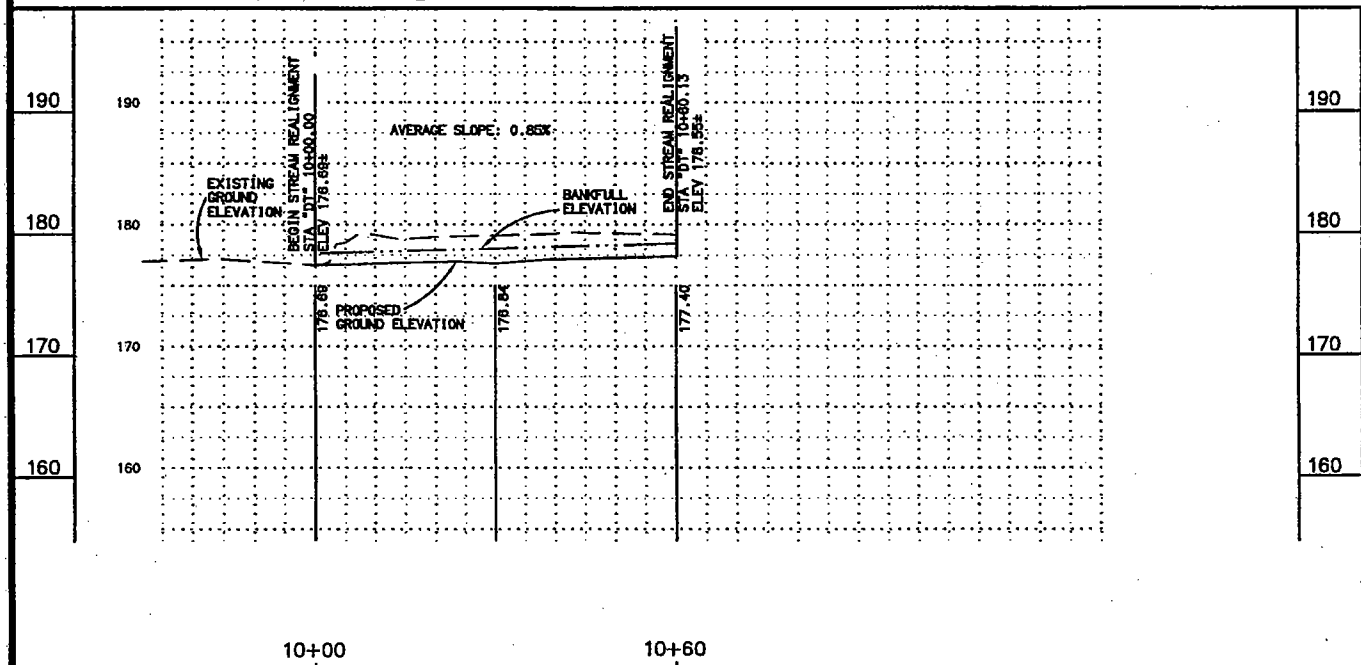
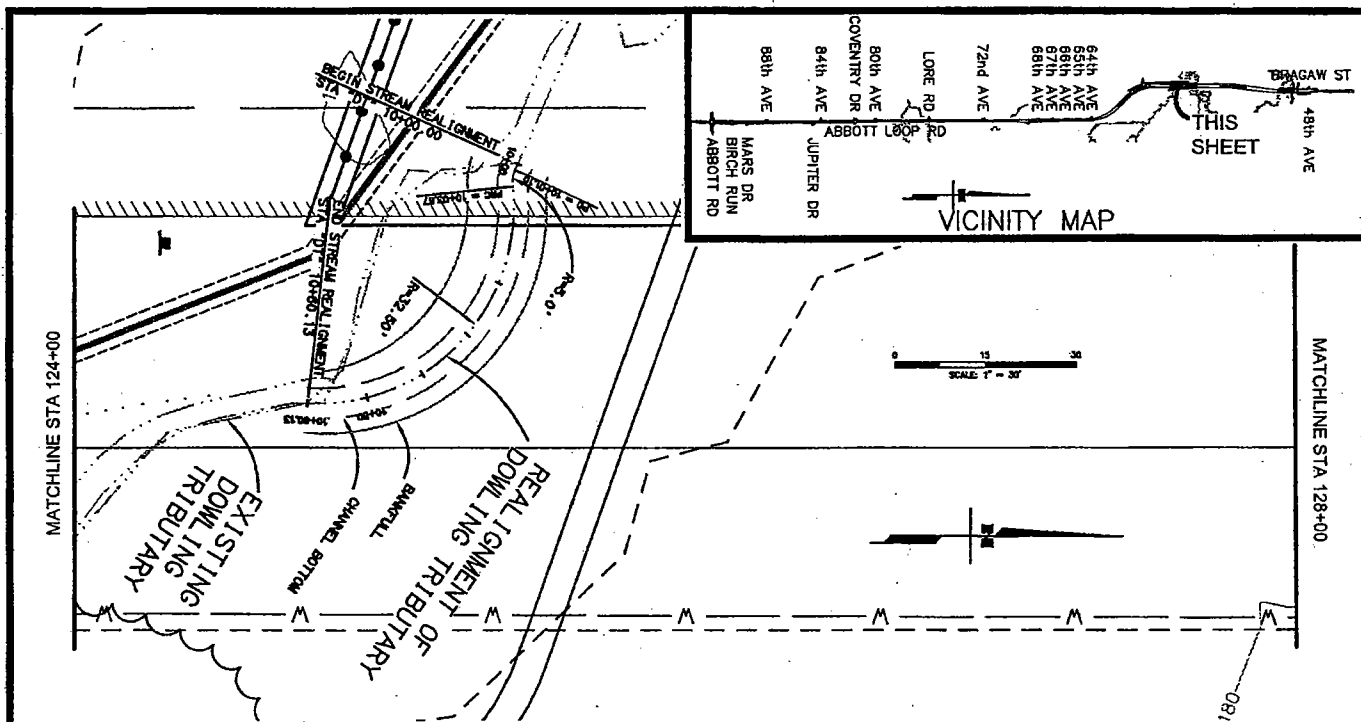
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S3/4, T12N, R3W, S.M. Anchorage, Alaska

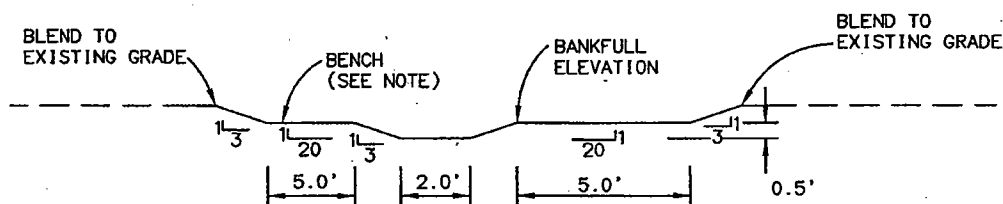
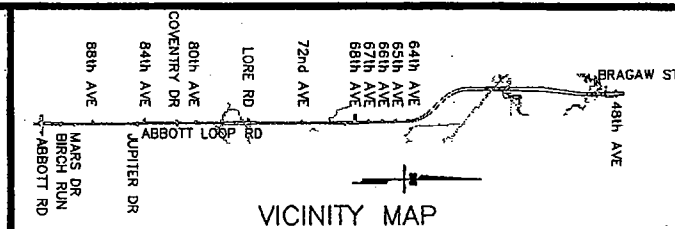
WATERBODY: Kasuun Tributary

DATE: 1-31-2005 SHEET: 44 of 49

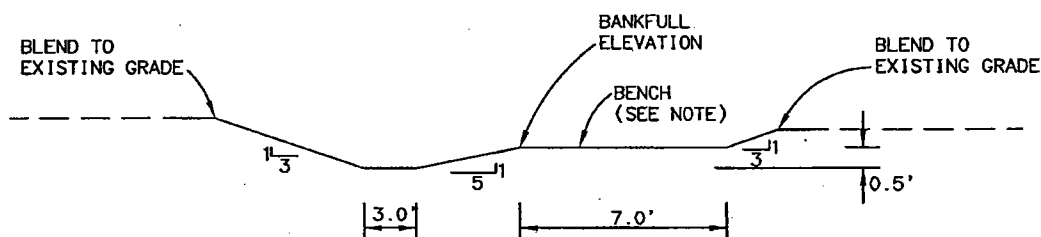


CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P
NAME: Alaska Department of Transportation and Public Facilities
PROJECT: ABBOTT LOOP ROAD EXTENSION
LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska
WATERBODY: Dowling Tributary

CULVERT PLAN VIEW
CULVERT AT STA "AL" 61+45



STRAIGHT (RIFFLE) TYPICAL SECTION



MEANDER (POOL) TYPICAL SECTION

NOTES

DITCH LINING SHALL CONSIST OF ROUNDED RIVER GRAVEL AND SHALL BE PLACED ON THE STREAM BOTTOM TO A UNIFORM THICKNESS OF 3", BETWEEN BANKFULL ELEVATIONS. THE STREAM BED MATERIAL SHALL BE GRADED WITHIN THE FOLLOWING LIMITS:

U.S. STANDARD SIEVE	% PASSING BY WEIGHT
80 MM (3-INCH)	100%
40 MM (1 1/2-INCH)	20-60%
20 MM (3/4-INCH)	0-15%
10 MM	0-5%

EXISTING VEGETATION EXCAVATED FOR CONSTRUCTION SHALL BE USED AS VEGETATIVE MATS FOR STREAM RELOCATION. PLACE VEGETATIVE MATS FROM BANKFULL ELEVATION TO 6" ABOVE TOP OF FLOODPLAIN BENCH.

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

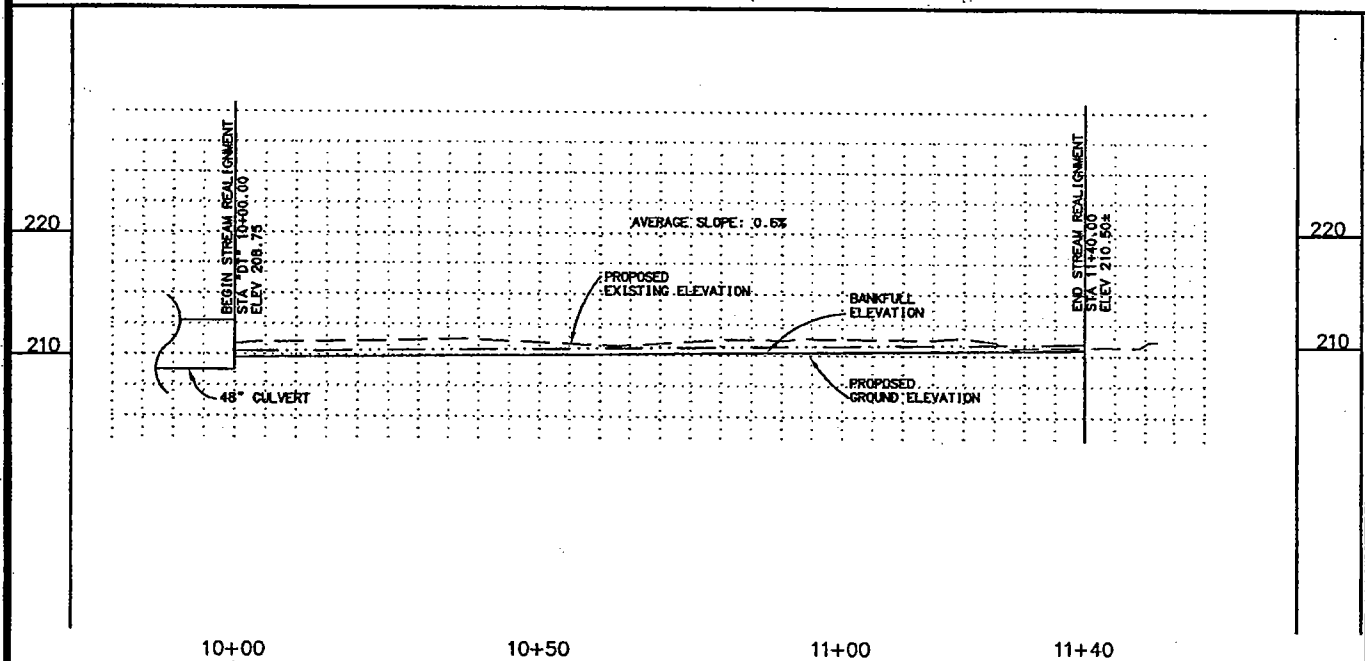
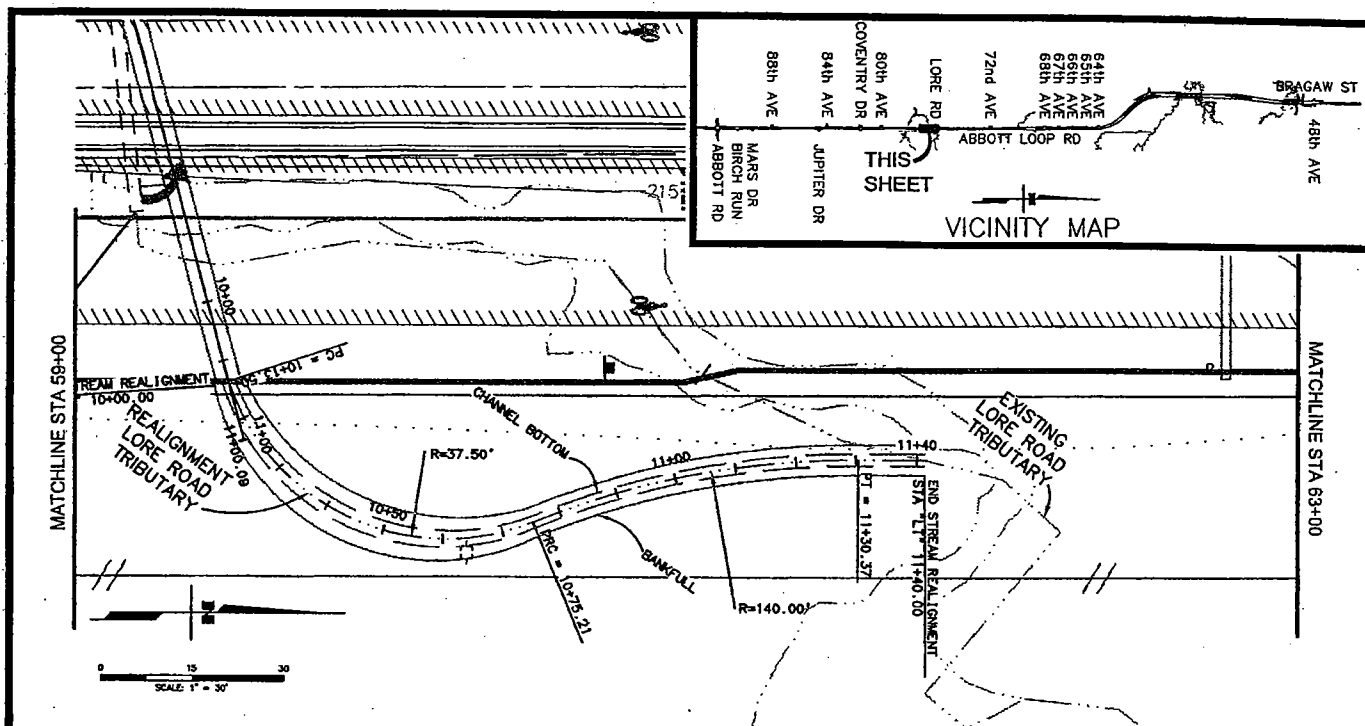
NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

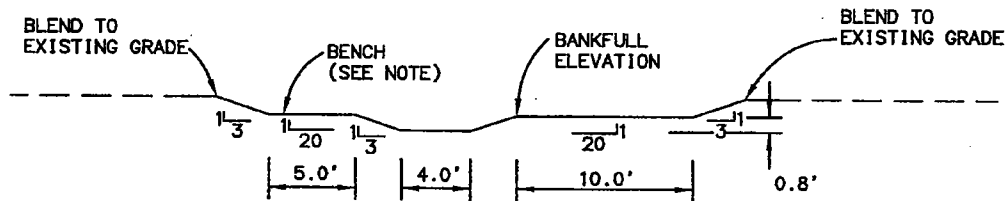
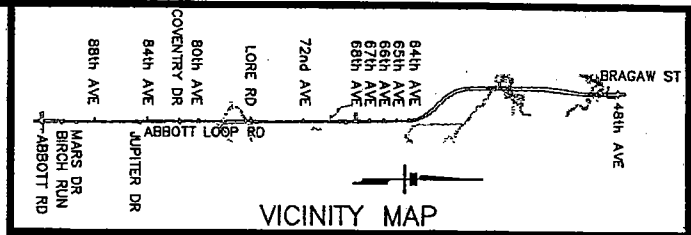
LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska

WATERBODY: Dowling Tributary

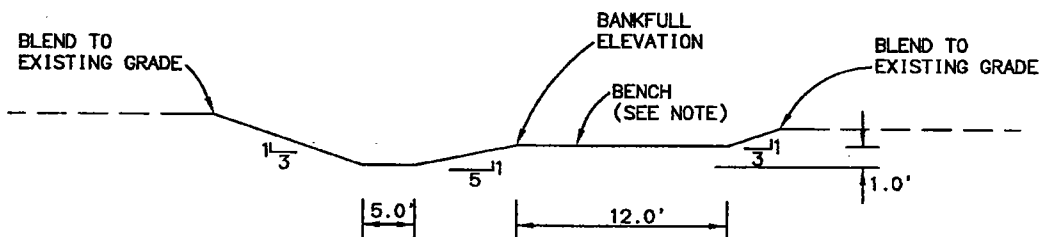
DATE: 2-4-2005 SHEET: 46 of 49



CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P
 NAME: Alaska Department of Transportation and Public Facilities
 PROJECT: ABBOTT LOOP ROAD EXTENSION
 LOCATION: S9/10, T12N, R3W, S.M. Anchorage, Alaska
 WATERBODY: Lore Tributary



STRAIGHT (RIFFLE) TYPICAL SECTION



MEANDER (POOL) TYPICAL SECTION

NOTES

DITCH LINING SHALL CONSIST OF ROUNDED RIVER GRAVEL AND SHALL BE PLACED ON THE STREAM BOTTOM TO A UNIFORM THICKNESS OF 3", BETWEEN BANKFULL ELEVATIONS. THE STREAM BED MATERIAL SHALL BE GRADED WITHIN THE FOLLOWING LIMITS:

<u>U.S. STANDARD SIEVE</u>	<u>% PASSING BY WEIGHT</u>
80 MM (3-INCH)	100%
40 MM (1 1/2-INCH)	20-60%
20 MM (3/4-INCH)	0-15%
10 MM	0-5%

EXISTING VEGETATION EXCAVATED FOR CONSTRUCTION SHALL BE USED AS VEGETATIVE MATS FOR STREAM RELOCATION. PLACE VEGETATIVE MATS FROM BANKFULL ELEVATION TO 6" ABOVE TOP OF FLOODPLAIN BENCH.

CORPS FILE No.: POA-2003-1081-4 &
POA-1989-402-P

NAME: Alaska Department of Transportation and Public Facilities

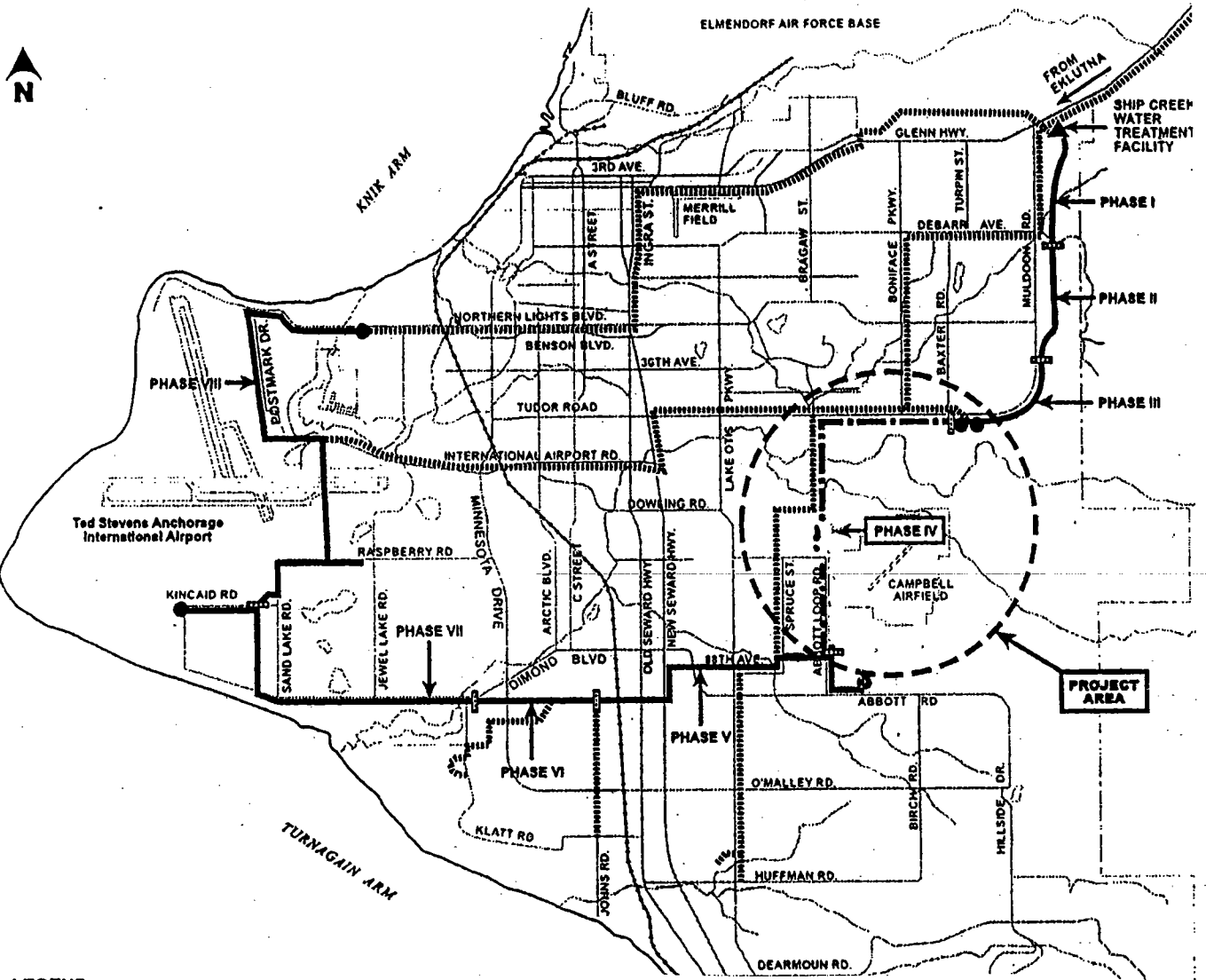
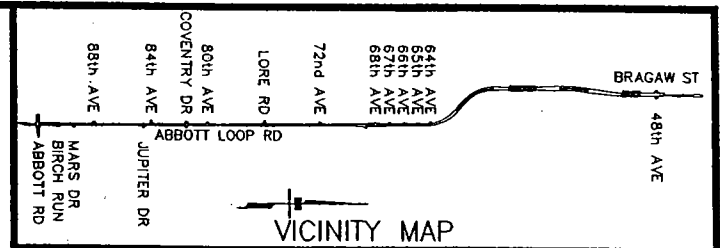
PROJECT: ABBOTT LOOP ROAD
EXTENSION

LOCATION: S9/10, T12N, R3W, S.M.
Anchorage, Alaska

WATERBODY: Kasuun Tributary

DATE: 2-4-2005

SHEET: 48 of 49



LEGEND

- Phase IV Alignment
- Anchorage Loop Water Transmission Main Phases
- Existing Major Water Transmission Mains
- Water Tanks

ANCHORAGE LOOP WATER TRANSMISSION MAIN-PHASE IV LOCATION MAP

DA PERMIT APPLICATION # P-1989-0402, CAMPBELL CREEK 87



CH2MHILL

CORPS FILE No.: POA-2003-1081-4 & POA-1989-402-P

NAME: Alaska Department of Transportation and Public Facilities

PROJECT: ABBOTT LOOP ROAD EXTENSION

LOCATION: S33/34, T13N, R3W, S.M. Anchorage, Alaska

WATERBODY: South Fork Campbell Creek

DATE: 1-31-2005

SHEET: 49 of 49